

ANIMAL KEEPERS' FORUM

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September 2011

The Journal of the American Association of Zoo Keepers, Inc.

ANIMAL KEEPERS' FORUM, 3601 S.W. 29th St., Suite 133, Topeka, KS 66614-2054

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38th Anniversary - 1974 - 2012

MISSION STATEMENT

(Revised April 2009)

American Association of Zoo Keepers, Inc.

The American Association of Zoo Keepers, Inc. exists to advance excellence in the animal keeping profession, foster effective communication beneficial to animal care, support deserving conservation projects, and promote the preservation of our natural resources and animal life.

This month's cover features a painting of a Coyote (*Canis latrans*) known as the Old Man by the animal keepers of the Virginia Living Museum of Newport News, VA. He is 15 years old and came to the museum from the Utica Zoo in Norwich, NY. This artwork is by Thelma "Tede" Johnson, a retired teacher and long-time volunteer of the museum. Originally, coyotes were found primarily across the great plains of the Western United States, but due to the continued loss of many larger competing predators, the coyotes range has increased to nearly all of Central and North America. Because of changes caused by human occupation, and the coyotes ability to adapt to many different environments, they can be found in nearly any habitat. Coyotes will grow to approx. 106-127cm in length (including the tail) and stand about 58-66 cm at the shoulder. The coyotes fur color varies from grayish to yellowish brown along the upper part of its body with a lighter whitish fur on its throat and belly. Along its back its black-tipped guard hairs form a black stripe and a cross on the shoulder area and they have a long bushy black-tipped tail. Although a coyote's diet consists mostly of small rodents, coyotes are omnivorous having also been observed eating fruit, insects, snakes, frogs, birds, and carrion. Coyotes are known to move in packs but also hunt in pairs or alone. Mating season takes place between February and April and for reproduction, coyotes are described as responsive breeders. Because of this special adaptation, attempts to control wild coyote populations by conventional methods (hunting, traps, poison, etc.) have often had the reverse effect and the overall pack size has been increased. Their gestation period lasts around 60 days and average litter size is six pups but there can be as many as 12 in compensation for a high mortality rate in their first year of life. Once the pups are born, both parents watch them closely for the first three weeks until the age of 12-15 weeks when they are taught to hunt. They are weaned by 35 days and the males leave the group within 6 – 9 months while the females remain with the pack. Still, between 50-70% of all young coyotes die before adulthood. Also, of the young that die 80% is the result of human trapping, shooting, poison, or other control methods. Thanks to Thelma for the artwork and to Karl Rebenstorff for the natural history write-up!

Sources: Audubon guide to Mammals, Wildlife Rehabilitation Bulletin Vol 28, No. 1 Spring 2010, Desert USA, and Wikipedia.

Articles sent to *Animal Keepers' Forum* will be reviewed by the editorial staff for publication. Articles of a research or technical nature will be submitted to one or more of the zoo professionals who serve as referees for *AKF*. No commitment is made to the author, but an effort will be made to publish articles as soon as possible. Lengthy articles may be separated into monthly installments at the discretion of the editor. The editor reserves the right to edit material without consultation unless approval is requested in writing by the author. Materials submitted will not be returned unless accompanied by a stamped, self-addressed, appropriately-sized envelope. Telephone, fax or email contributions of late-breaking news or last-minute insertions are accepted as space allows. Phone 785-273-9149; FAX (785) 273-1980; email is akfeditor@zk.kscoxmail.com< If you have questions about submission guidelines, please contact the Editor. Submission guidelines are also found in the Members Only section of the AAZK website.

Deadline for each regular issue is the 10th of the preceding month.

Dedicated issues may have separate deadline dates and will be noted by the editor.

Articles printed do not necessarily reflect the opinions of the *AKF* staff or the American Association of Zoo Keepers, Inc. Publication does not indicate endorsement by the Association.

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Scoops & Scuttlebutt



A Note of Appreciation from the AKF Editor

I hope by now all of you whose AAZK memberships were current last month have received the 172-page dedicated July/August issue of *Animal Keepers' Forum*. This expanded double issue covers Ungulate Husbandry, Enrichment, Training and Conservation. If you are a new member this month and therefore did not receive this edition, you will be able to purchase this special issue on the AAZK website under "Publications".

An issue like this does not come together without the efforts of many people and organizations - from authors to photographers, from artists to sponsors. A listing of those who provided financial support for this particular edition of *AKF* was included in the dedicated issue. However, one donation to help underwrite the costs of the production of this double issue of *AKF* arrived too late to be included in the Thanks Yous.

I want to thank all of the members of the Greater Houston AAZK Chapter for their donation of \$1000.00 towards the costs of producing this dedicated issue. Your commitment to the ongoing dissemination of information that will assist keepers in continuing to develop skills and techniques that benefit their animals reflects the professionalism and dedication of your Chapter and its members. Many thanks. ~Susan D. Chan, Managing Editor AKF

2011 Bowling For Rhinos Honorary Trip Winner

Bowling for Rhinos is AAZK's biggest conservation effort. There are a number of people who are the true heroes in making AAZK's "Bowling For Rhinos" successful. Year after year, they tirelessly organize their event with little recognition. Their reward is in knowing that they are helping to conserve wildlife worldwide.

In 2007, AAZK, Lewa and Anna Merz began recognizing these dedicated members by rewarding them with a chance to see firsthand the results of their dedication. Anna Merz has offered to host an individual and a companion, if they wish, for one week at Lewa Wildlife Conservancy in Kenya. The winner's expenses would be paid and the companion would need to be able to stay in the same room as the winner. The companion would need to pay their travel expenses. Travel would occur in October.

Winners must be AAZK members in good standing. These trips will be awarded on an as needed basis by the Board of Directors.



Rules for Honorary Bowling For Rhinos Trip Winner:

- Travel will occur the following year in October. This coincides with Anna Merz's trip to Lewa for the fall Lewa Board meeting.
- Anna will "host" the trip winners which entails paying all their expenses at Lewa (except souvenirs and tips) for one week.
- The cost for the trip winner's plane fare, transport cost and hotel in Nairobi (roughly \$2,250) will be covered by Lewa.
- Recommendations for trip winners will be made by Patty Pearthree to the AAZK BOD. Patty may solicit recommendations from AAZK members in case there are deserving members of which she is unaware.
- Winner will sign a "holds harmless" waiver for AAZK, Inc. prior to travel.

Jacque Blessington of the Kansas City Zoo is the 2011 recipient of this trip. Jacque was a founding member of the first ever "Bowling For Rhinos" event back in 1987. She has continued to organize this event each year until 2010 when she turned it over to new staff. That's 23 years! Now THAT is dedication! Jacque's tireless efforts have not gone unnoticed in the conservation field so it is with great pride that I announce she be awarded with a free trip to visit Lewa Wildlife Conservancy in Kenya in October, 2012. She and a companion will be hosted by Anna Merz on their adventure to be first-hand observers of the wildlife that benefits from Jacques's hard work and dedication. Congratulations Jacque for a job well done!

Congratulations to the 2011 Recipient of the BFR Conservation Resource Grant

Please join us in congratulating the International Rhino Foundation (Susie Ellis, PhD., Executive Director) on being the 2011 recipient of the Bowling for Rhinos Conservation Resource Grant. This grant, established with funds generated through Bowling for Rhinos, is made available annually to projects dedicated to rhino conservation. Selection of the successful candidate is made by the AAZK Board of Directors following evaluation and recommendation by the AAZK Conservation Committee. The full amount of \$1,828.41 will be awarded to purchase radio collars for use in the translocation of greater one-horned rhinos to India's Manas National Park in late 2011. These translocations are part of Indian Rhino Vision 2020, a multi-organizational conservation project dedicated to expanding the number and range of this species.



AAZK Behavioral Husbandry Committee Announces 2011

Contest Winner!

The AAZK Behavioral Husbandry Committee is grateful to all of the authors who submitted articles to the *Animal Keepers' Forum* Enrichment Options and Training Tales Columns this year. These columns would not exist without your writing contributions. Thank you for sharing your techniques, talents and stories with the *Forum* audience!

We are happy to announce the writing incentive program winner for 2011: Congratulations to Jeanne Hale from Coyote Point Museum, the author of the article "Prototype Superworm Dispenser as Multi-species Environmental Enrichment" published in the September 2010 Enrichment Options Column. She was selected by the AAZK Behavioral Husbandry Committee for a complementary registration to the 2011 AAZK Conference in San Diego.

Don't miss out on your chance to be selected next year for free registration to the 2012 National AAZK Conference in Syracuse, NY. Submit your training and enrichment articles into the Training Tales or Enrichment Options columns today! Check out the AAZK website for a complete listing of article guidelines at http://aazk.org/members/akf_submissions.php. Articles can be emailed to the following:

- Enrichment Options articles to Julie Hartell-DeNardo, jshartell@yahoo.com
- Training Tales articles to Jason Pratte, catlordj@aol.com

Contest Rules: The AAZK Behavioral Husbandry Committee will choose one article from those published between June 2011 thru May 2012 in the AAZK *Animal Keepers' Forum* Enrichment Options or Training Tales columns to be awarded a FREE 2012 conference registration. Only one registration will be awarded per year. If the selected paper has multiple authors, designation of the award among these authors is not the responsibility of AAZK or the AAZK Behavioral Husbandry Committee. The winning registration is non-transferable (only the author/co-author of the selected paper may utilize the award). If an author of the chosen paper is unable to attend the conference another paper will be selected by the Committee.

Fourth Tree Kangaroo Species Survival Program Workshop Announced

Hosted by the North American Tree Kangaroo SSP® and Woodland Park Zoo, the workshop will take place 8-11 November 2011.

This International Workshop will be held at the Woodland Park Zoo, Seattle, WA, and host delegates from around the world including special guest Danny Samandingke, Tree Kangaroo Conservation Program (TKCP) Education Coordinator in Papua New Guinea

Registration is \$125 and is open to all interested individuals. For more information contact Jacque Blessington at: Jacsprat65@aol.com or call: 816-513-5700.

AAZK Chapters Help Underwrite AKF Production

During the 2011 Chapter Recharter process earlier this year, five AAZK Chapters generously sent in donations to help cover the costs associated with the production of *Animal Keepers' Forum*. We would like to thank them for their support in producing the Association's monthly professional journal.

For the September 2011 issue of *AKF* we wish to thank all the members of the AAZK Indianapolis Chapter, Indianapolis, IN. ~ *AKF Editor*

The AAZK Indianapolis Chapter (AAZK Indy) has been hard at work again this year. We are a group of highly dedicated individuals working to make conservation and professional development a personal commitment. Our members are devoted to spending much of their free time hosting events and fundraisers in order to practice what we preach on a daily basis.

Our Chapter gears up in the spring for bowling and music at our annual "Bowling for Rhinos" event. In July, AAZK Indy and the Indianapolis Zoo staff celebrated "National Zoo Keeper's Week" by treating the zoo keeping, horticulture and support staff with treats, extra discounts at the zoo gift shop, prize drawings and free tickets to an Indianapolis Indians baseball game.

Each autumn, our Chapter raises funds at our "Party for Penguins" event to build much needed nests for endangered African Penguins' survival.

In between fundraisers and the busy summer months, members of AAZK Indy find time with their busy schedules to volunteer before and after zoo hours to clean our "Make a Wish for Conservation" stream. Members collect coins from the stream and with lots of elbow grease, keep it clean.

Just in time for the holidays, AAZK Indy works diligently to make an awesome calendar providing a listing for zoo/gardens events and showcasing our amazing plants, animals and zoological/botanical campus.

Proceeds from the calendar sales and the "Make a Wish for Conservation" stream support various conservation projects *in situ* and *ex situ*, professional development and to making AAZK care packages for fellow staff members who have suffered a personal loss or the loss of a beloved animal in their collection.

Our Chapter is small but mighty!

Alisa Keys

President, AAZK Indianapolis Chapter



From the Executive Director

Recently in my community, a giraffe was fed a poisonous plant as browse and died. A second giraffe became ill, but survived. An error that cost the life of an exotic animal and damaged the reputation of the zoo in the eyes of the local community, it was a drawn-out, challenging, extremely emotional and difficult event for the zoo staff and ultimately radically re-shaped the life of the employee directly involved in the error.

Looking past that specific event, and in an attempt to view the bigger picture, let's examine the root cause of a significant portion of catastrophic events involving accidental animal death/injury where staff is directly involved, keeper death/injury or animal escape. While not comparing tragic events directly, in events approaching this magnitude there is a direct correlation to an airline disaster. For an airline incident, the term often initially applied and consistently used by the media or others prior to determining root cause of the event is "pilot error". In our profession, the term is "keeper error".

An error of any sort is usually traced back to inadequate, insufficient or poorly assimilated training. Comprehensive employee training is misunderstood and mishandled by almost every employer. For example: new employees are almost always rushed into and rushed through new employee training and orientation – Employees were hired to fill a vacancy and therefore, work, not to spend time in training and employees want to jump into work, not listen to boring information. When this is the case, then the employer should expect and plan for a catastrophic event that will eventually result from poor training techniques and the employee should expect preventable incidents that will occur during an all-important probationary period.

Employers must develop interactive training protocols for zoo professionals. A training and safety plan written a decade ago, gathering dust on a shelf is useless. The program must be refreshed and revised, prior to each training event. It must contain policy and rules, and must be interactive. It must involve spending time with the employee in the classroom; teaching, testing, followed by field work and then re-calling the employee to the classroom to demonstrate proficiency by passing examination. Training that is not measureable by a demonstrated test of knowledge at the conclusion, is not training and it will not serve to validate the training premise. All training must be reviewed and approved by management staff, offered in a multitude of formats by varying instructors and documented. If the training is not documented by the employer – the training never happened.

If supervisors have not been trained on how-to-train an employee; then the program is without merit. Supervisors should be re-trained (refreshed) frequently by management staff at least annually. Supervisors should be evaluated by managers on how they assimilate and convey training materials and they should be evaluated by the employee they are training. A supervisor who is a poor trainer, who may have incredible animal knowledge and be excellent lead or senior staff, should not be allowed to train employees; it is not worth the risk to the facility.



Painful as this concept is, all staff require some form of annual training on the fundamentals of the profession. To lessen the pain, this process is best conveyed and better received by existing employees when it is presented within a short period (no greater than five days) of an event loosely described or depicted as "well - that could have gone better". Again, this training must be formal classroom and possibly combined with practical field exercises. Training should be measureable (test) and documented for the employee file.

Employees have to understand that initial and continuing education in

the form of refresher training is not a waste of valuable time. It is an opportunity to reinforce lessons learned, learn new techniques and to prevent complacency that directly leads to an accident or incident.

Further, to fully protect both employer and employee in the field of exotic animal care, the employer should provide frequent (at least every other year) formal training for all staff in:

- Animal Nutrition
- Geriatric Animal Care
- Toxic and Poisonous Plant Identification
- Animal Capture and Restraint
- Animal Behavioral Enrichment Techniques
- Emergency Response

The Occupational Safety and Health Administration (OSHA) requires annual training in Hazard Communication and Bloodborne Pathogens for all affected employees.

Consistent, informative, interactive and documented employee training is important to the safety of the facility and the safety of the employee. Employees must also be on board and not equate training like they would a visit to the Endontist for a root canal.



Ed Hansen, Executive Director
AAZK, Inc.

AAZK Seeks Assistant Media Production Editor

AAZK is seeking a dedicated individual to join our staff as the Assistant Media Production Editor (MPE). The position is part-time and the salary is negotiable. Qualified candidates will have demonstrated proficiency in Adobe InDesign, PhotoShop, and MS Word.

The Assistant MPE will help manage production of the *Animal Keepers' Forum*, producing articles from receipt of manuscript to final print, to an agreed standard of quality, cost, budget, and to agreed schedules and deadlines. The Assistant MPE will report directly to the Media Production Editor and will liaise with authors, contributors, columnists, advertisers, staff, and the Board of Directors. The Assistant MPE may also interact directly with the print house and mailing house to ensure publication deadlines are met. We are seeking a task-oriented individual with the ability to meet continual deadlines. A strong background in computer design is desired but not required.

To apply for this position, please submit a cover letter and resumé to Shane Good at shane.good@aazk.org. A complete job description is available upon request.

The deadline to apply for this position is 14 October 2011.

From the Immediate Past President

It seems odd to put into words, but as you read this letter, I am no longer President of this Association. My two consecutive terms on the Board of Directors have come to an end and I have passed the Presidency on to the very capable hands of Bob Cisneros of the San Diego Zoo. Bob and the rest of our Board are ready to take us into the future, and they are equipped with a brand new strategic plan crafted by key members of the Association during a special strategic planning session at the San Diego conference. Facilitated by Onnie Byers of the Conservation Breeding Specialist Group, this strategic plan details the goals and actions that will shape the future of our Association, but it is by no means written in stone. It is a living document and it will not take on its most complete and effective form unless you, the membership, make your voices heard. The lines of communication between the Board and the membership have been improved over the last eight years. We have introduced a new and improved website, electronic newsletters, e-blasts, social media pages, "town hall" meetings at conferences, and regularly share our financial bottom line with you. However, none of that matters if the communication isn't reciprocated. Let the Board know how you feel and what is important to you as an animal care professional and member of AAZK. Be the voice that shapes your profession.

When I sent in my first check for my professional membership in my rookie year as a keeper, I had this grandeur vision of what the AAZK national office must look like. I pictured a large office building with a number of staff diligently working in cubicles. Little did I know that the AAZK office was literally the size of most of your living rooms and the staff was a staff of two! What a testament to the dedication and distinguished service that Susan Chan and Barbara Manspeaker have given to AAZK all of these years. These two incredible women are so good at what they do, we often overlook that there are only two of them when it can seem like there must be so many more in that office! It is also a compliment to the scores of volunteer committee chairs, committee members, and Board Members who so passionately believe in this profession and Association. Providing outstanding leadership to all of these individuals is Executive Director Ed Hansen. Working with Ed, the Board, and AAZK staff truly has been a highlight of my career, but what have been especially rewarding are the lifelong friendships I have developed with everyone throughout the AAZK membership. You truly are an amazing group of people to work with.

This is about the time when outgoing Presidents and Board Members promise that they aren't going to go far. They will continue to come to AAZK conferences, stay involved in the Association, and continue to give back to the profession that is so important to them. Some have stayed true to their word. Others, for one reason or another, have disappeared like forest animals fading into the undergrowth. I can personally guarantee that I am not going far because I will soon be taking over for the retiring Susan Chan as the new Editor of the *Animal Keepers' Forum*. Susan has an incredible legacy within this Association and she is synonymous with the AKF, so I have a large task at hand to fill her shoes. I'll need all the help I can get, so I'll start asking now; please send me your articles, photos, editorials, updates, artwork, questions, comments, and concerns (sgood@zoominternet.net). Most importantly, if you have an idea, send it my way. Have an idea for a new column? Dedicated issue? Featured article? Let me know and we will try to make it happen. Susan and I will be working together until January, and then she will be enjoying sweet retirement after nearly 31 years on the job. Until then, best of luck to Bob and the new Board! See you all in Syracuse!



Shane Good, Immediate Past President
Cleveland Metroparks Zoo

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Coming Events

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September 19-22, 2011 - Elephant Care Workshop - a practical workshop on elephant foot care and habitat design to support elephant health - To be held at the Phoenix Zoo, Phoenix, AZ. Optional post-trip to Reid Park Zoo in Tucson. Workshop cost \$200, additional \$35 for Reid Park trip. Fees payable at registration so please bring cash, check or money order with you. Limited to 25 participants, preference given to elephant caregivers. To pre-register contact Heather Wright, Elephant Manager, Phoenix Zoo, by calling (602) 273-1341 ext. 7626 or email hwright@phoenixzoo.com

September 26-30, 2011 - Training and Enrichment Workshop For Zoo Animals - Hosted by the Oakland Zoo, Oakland, CA. Active Environments and Shape of Enrichment are proud to present the fifth Training and Enrichment Workshop for Zoo Animals hosted once again by the Oakland Zoo, Oakland, California. This unique five-day workshop is designed for keepers, managers, supervisors, curators, and veterinarians working with all species of animals held in zoos. The workshop will present an array of topics relating to the behavioral management approach to caring for captive animals, with focus on environmental enrichment, positive reinforcement training techniques, and the problem-solving process. For further information contact: Active Environments, Inc., 7651 Santos Road Lompoc, CA 93436. Tel: 805-737-3700 E-mail: active_environs@ix.netcom.com

October 1-5, 2011 - 30th Annual Conference of the Association of Zoological Horticulture (AZH). Hosted by the Sedgwick County Zoo, Wichita, KS. Theme: "Bringing the World to the Plains". Seminars and workshops covering a wide range of topics involving Horticulture, Integrated Pest Management, Conservation and Exhibit Design will be presented. Participants within the Horticulture, Arboriculture and Grounds Maintenance fields are encouraged to attend. For information call 316-266-8313, 316-266-8314 or visit AZH.org.

October 6 - 9, 2011 - Advancing Bear Care 2011 - To be held in Banff, Canada. Bear biologists and naturalists will lead hikes into bear habitat and interpret for delegates how bears use the components of the ecosystem to express their daily and seasonal routines. We will bring this information back into workshops and apply this knowledge towards improving captive bear husbandry. Also, international bear biologists will assist us in interpreting Asian, European, and South American bear habitats. Conference updates will always be posted on the Bearcare Yahoo Group list serv <http://ca.groups.yahoo.com/group/bearcare/> You will be able to advertise your need for roommates, rides, conference questions etc. on this list serv. To join just send an email to bearcare-subscribe@yahoogroups.ca

October 6-9, 2011 - 32nd Annual Elephant Managers Association Conference - Hosted by the Seneca Park Zoo, Rochester, NY. The pre-conference trip will be hosted by Lion Country Safari in Cambridge, Ontario on Wednesday, October 5th (Passport needed to participate in this trip).

2012

February 15-18, 2012 - 20th Annual Conference of the International Association of Avian Trainers and Educators - Hosted by the Minnesota Zoo, Bloomington, MN. Topics will include avian behavior, training, husbandry, conservation, education, enrichment, and show presentation/production. Paper and poster abstract deadline is 1 October 2010. Please mail to: conference@IAATE.org For detailed Call for Papers and more information visit www.IAATE.org

April 12-15, 2012 - Otter Keeper Workshop - The 5th biennial workshop will be hosted by The Dallas World Aquarium. Any staff working with any of the freshwater species is welcome to attend. Topics will include: captive management issues, enrichment, training, water quality, health care, nutrition, diet, hand-raising, exhibit design, and lots of sharing of information between keepers. Registration is \$75.00. For more information, see www.otterkeeperworkshop.org

August 8-14, 2012 - The World Congress of Herpetology - To be held in Vancouver, Canada. For more information see <http://www.worldcongressofherpetology.org/>

September 9-13, 2012 - 4th International Congress on Zookeeping - Sponsored by Wildlife Reserve Singapore/Singapore Tourism Bureau. Theme: "Many Voices, One Calling". For info on sponsorship or exhibit opportunities email eo@aszko.org.au. Check the ICZ website <http://www.iczoo.org/> for latest news/information.

September 23-27, 2012 - AAZK National Conference - Hosted by the Rosamond Gifford Zoo and the Rosamond Gifford Zoo AAZK Chapter in Syracuse, NY.

Upcoming AAZK National Conferences

2012 - Syracuse, NY - September 23-27

2013 - Asheville, NC - September 22-26

For information on upcoming AAZK conferences, watch the AAZK website at www.aazk.org

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"Acres for the Atmosphere is rooted within local communities. Promoting increased environmental awareness, we utilize group identity to instill a sense of personal ownership for one's actions and environment. We aim to effect change on the carbon-based economy and improve our surroundings near and far."



On behalf of Acres for the Atmosphere, the American Association of Zoo Keepers and Polar Bears International we would like to recognize the outstanding hard work of Zoo Keeper

Angela Johnson at the Louisville Zoo.



Angela Johnson (front row center)

Angela is a leading example of just how much of a difference one person can make. With her drive and enthusiasm, Angela is helping make tomorrow a better today!

In the last two years she has helped to plant 50 trees with the aid of various grants and she also reaches out to the community and asks visitors to take a pledge to plant a tree of their own!

She is also aiding in an energy analysis within her zoo, has added education material to the Louisville Zoo's website and even had time to represent PBI and her zoo within the Kentucky Derby Pegasus Parade!

If you are interested in finding out how you can help please contact us at: marissa.krouse@aazk.org

"I believe everyone should get involved because it is everyone's responsibility to take care of nature....not just a handful of people. What we do here now (good or bad) will affect generations to come." ~ Angela Johnson

ZooNews Digest/Zoo Biology Group - Check Them Out!

ZooNews Digest is the longest established and most widely read listing of current 'zoo' related news on the Internet. It notes 'real' events of interest to those working within the zoo industry. The Digest also includes comments and notification of courses and coming events. You can check it out on its Facebook® page at <http://www.facebook.com/pages/ZooNews-Digest/41410063216?ref=nf>. Or check our <http://zoonewsdigest.blogspot.com/>

The Zoo Biology Group is concerned with all disciplines involved in the running of a Zoological Garden: captive breeding, husbandry, exhibit design and construction, diets, enrichment, management, record-keeping, etc. To join the Zoo Biology group see <http://groups.yahoo.com/group/zoo-biology> for qualifications and process.

AAZK Announces New Members

Lindsay Tucker, **Turtleback Zoo (NJ)**; Christina Matthews, **Jenkinson's Aquarium (NJ)**; Kimberly Simpkins, **Cape May County Zoo (NJ)**; Megan Baumer and Alexis Amann, **Bronx Zoo (NY)**; Rachel Stepien, **Buffalo Zoo (NY)**; Jennifer Funk, **Pittsburgh Zoo (PA)**; Cat Clauson and Rachel Killeen, **Elmwood Park Zoo (PA)**; Stephanie Stadnik, **Philadelphia Zoo (PA)**; Hannah Fullmer, **Lehigh Valley Zoo (PA)**; Valerie Betts, **Baltimore Zoo (MD)**; Jennifer Williams, **Maymount Park (VA)**; Stacey Cilenti, **Virginia Aquarium & Marine Science Center (VA)**; Heidi Pankratz, **Virginia Living Museum (VA)**; Kevin Hils, **Chehaw Wild Animal Park (GA)**; Casey Oyler and Ashley Kramer, **Riverbanks Zoo & Garden (SC)**; Tracy Sorensen, **Zoo Miami (FL)**; Jessica Kaplan, **Dolphin Connection (FL)**; Kathleen Ranos, **Lowry Park Zoo (FL)**; Amy Smith, **Knoxville Zoo (TN)**; Hilda Angeles, **Brights Zoo (TN)**; Amy Coons, **Brookfield Zoo (IL)**; Michelle Herd, **Scoville Zoo (IL)**; Kelly Sinak, Jana Pearl and Sean Gebhart, **Fort Wayne Children's Zoo (IN)**; Amy Ellwein, **Red River Zoo (ND)**; Lori Bankson, **Bay Beach Wildlife Sanctuary (WI)**; Margaret Farr and Veronica Caldwell, **Kansas City Zoo (MO)**; Nicole Becker and Katie Pilgram, **St. Louis Zoo, (MO)**; Elise Neuer and Kristyn Hayden-Ortega, **Topeka Zoo (KS)**; Hilary Merkwand, **Omaha's Henry Doorly Zoo (NE)**; Alison Rowe, Marsha Fernandez and Sara Fee, **Audubon Zoo (LA)**; Carrie Sowell, **Zoo of Acadiana (LA)**; Renee Jones and Kerbi Gagne, **Dallas Zoo (TX)**; James McKinney and Matthew Peterson, **Abilene Zoo (TX)**; Pricilla Farley, **Houston Zoo (TX)**; Renee Rojas, **El Paso Zoo (TX)**; Alexandra Echenberg, **Gladys Porter Zoo (TX)**; Laura Love Wymore and Tracy Montgomery, **Phoenix Zoo (AZ)**; Jacqueline Bezanson, **Reid Park Zoo (AZ)**; Sean Walcott, **Seaworld of San Diego (CA)**; Kathryn Roach, **Exotic Feline Breeding Compound (CA)**; Debbi Sullivan and Amber Shanks, **The Living Desert (CA)**; Jennifer Y'Deen, **California Science Center (CA)**; Debra Marrin-Towey and Tracy Ling, **San Francisco Zoo (CA)**; Michelle Jeffries, **Oakland Zoo (CA)**; Greg Menacho, **Happy Hollow Park & Zoo (CA)**; and Caroline Massard, **Bend Equine Medical Center (OR)**.

Renewing Contributing Members

Joan Diebold
Quincy, MA

Steven M. Wing
Louisville Zoo, Louisville, KY

Vernon N. Kisling, Jr.
High Springs, FL

Hiroko Yoshida, Ph.D.
Saitama, Japan

Renewing Commercial Members

PetAg, Inc., Hampshire, IL

Reliable Protein Products, Phoenix, AZ

Renewing Institutional Members

Philadelphia Zoo, Philadelphia, PA

Catoctin Wildlife Preserve & Zoo, Thurmont, MD

Indianapolis Zoo, Indianapolis, IN

Peoria Zoo, Peoria, IL

The Toledo Zoo, Toledo, OH

John Ball Zoological Garden, Grand Rapids, MI

Gulf Breeze Zoo, Gulf Breeze, FL

Naples Zoo, Naples, FL

Jacksonville Zoo & Gardens, Jacksonville, FL

Wildlife Wonders - Zoo to You, Cleveland, GA

Frank Buck Zoo, Gainesville, TX

Behler Chelonian Center, Ojai, CA


New Institutional Members

Animal World & Snake Farm Zoo, New Braunfels, TX




Natural History Museum of LA, Los Angeles, CA

New Commercial Members

Fauna Research, Inc.
Red Hook, NY



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2011 AAZK Award Recipients

The following are recipients of awards presented at the 2011 AAZK Conference in San Diego, CA and hosted by the San Diego Zoo and the San Diego AAZK Chapter. The *Certificates of Recognition*, the *Certificates of Appreciation* and the *Chapter of the Year* are given by the AAZK Board of Directors. The *AKF Excellence in Journalism Awards* are selected by the journal's editorial staff. All other listed awards are determined by the AAZK Awards Committee from nominations received from the membership.

The Lutz Ruhe Meritorious Achievement - Professional of the Year Award

Kelly A. Wilson, Detroit Zoological Institute. This award is in recognition of his outstanding commitment to professionalism during his distinguished career as a zoo keeper. Specially noted are his conservation fundraising initiatives, presentations at the Detroit and other zoos, assisting with an animal confiscation of over 1000 mixed species of animals, organizing National Zoo Keeper Week at the zoo, and manning vending machines whose proceeds help send keepers to professional development classes or conferences. Also noted is his work on the AAZK Professional Development Committee, networking with other AAZK Chapters, developing his Chapter's website and, as Detroit Chapter President, dramatically increasing their membership.

Jean M. Hromadka Excellence in Animal Care Award

Valerie Riegel, Happy Hollow Zoo. This award is based on her outstanding animal husbandry, enrichment for all species, research, exhibit-design, public education and helping the zoo gain AZA accreditation. Specially noted is her development of a conservation project called "Conserving and Nurturing Natural Ecosystem Diversity". She was also instrumental in starting both the zoo's first education and volunteer programs, and the success of the Parma Wallaby breeding program.

Certificate of Merit for Zoo Keeper Education Award

Anne Knapp, Zoo New England, for developing an extensive three-year keeper training and education program that is available to the entire zoo staff. Also noted is the development of short duration classes on specific topics.

CuriOdyssey, San Mateo, CA for their variety of educational programs. The Apprenticeship Program that teaches the "ins and outs" of being a Keeper, the six-month adult volunteer Internship, the Keeper-in-Training Program for teenagers, and support for keepers to receive continuing education at conferences and workshops.

Lee Houts Excellence in Enrichment Award

The Enrichment Team (Jennifer Zuehlke, Elizabeth Petersen, Laura Reisse, and Amy Schilz), Henry Vilas Zoo, for developing and implementing an enrichment program with the Mounds Pet Store chain whereby customers may purchase specific enrichment items from the store and donate them to the zoo.

Jennifer Gale, CuriOdyssey, for developing an enrichment calendar, an enrichment column for the Daily Health Sheet, flash cards with animals on one side and enrichment ideas to construct on the other side, an Enrichment Binder and Summer Camp Enrichment Binder. Also noted is her work mentoring the Enrichment Internship position and video-taping animals interacting with enrichment items to show to the public.

Certificate of Merit in Conservation Award

Michelle R. Schireman, Oregon Zoo, for her outstanding work developing an orphaned animal placement program that gives assistance to state wildlife agencies and zoological institutions in placing orphaned pumas. Also noted was that over the past nine years, she has successfully placed 52 cubs from ten states and Canada in 25 AZA institutions.

Wendy Lenhart, Philadelphia Zoo, for organizing and implementing the "Bird Strike" program to identify problem areas in the zoo where birds strike glass. The goal of the program is to create a bird-friendly environment for migratory species.

Certificate of Recognition

Shane Good, Cleveland Metroparks Zoo, for serving on the AAZK Board of Directors

Gisela Wiggins, North Carolina Zoological Park, for serving on the AAZK Board of Directors

Deana Walz, The Living Planet Aquarium, for serving as the Behavioral Husbandry Committee Chair

Cleveland Chapter of AAZK, Cleveland Metroparks Zoo, for hosting the Acres for the Atmosphere Strategic Planning Meeting.

Polar Bears International, for their outstanding support and leadership of Acres for the Atmosphere, Trees for You and Me, and Leadership Camp.

Matt Akel, San Diego Zoo, 2011 National AAZK Conference Co-Chair

Yvette Kemp, San Diego Zoo, 2011 National AAZK Conference Co-Chair

Certificate of Appreciation

Zoological Society of San Diego, 2011 AAZK National Conference Host Institution

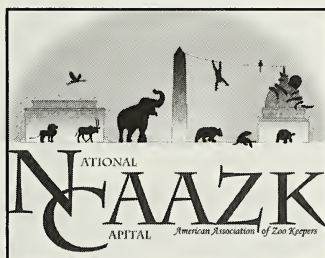
Jeff Strawn, for the completion of the marketing and promotional materials for the 2011 AAZK Membership drive.

Distinguished Service Award

San Diego Chapter of AAZK
2011 AAZK National Conference Host Chapter

Chapter of the Year

National Capital AAZK Chapter, National Zoological Park, Washington, DC



2011 AKF Award Recipients Excellence in Journalism Awards

Stacy Specht, B.S., Zookeeper, Kansas City Zoo, Kansas City, MO
Stephanie Richmond, B.S., Zookeeper, Saint Louis Zoo, St. Louis, MO

***“Conditioning 0.1 Eastern Black Rhinoceros (*Diceros bicornis michaeli*)
for Behavioral Restraint in Diagnosis and Treatment of Vitiligo”***
June 2010

Jay Pratte, Lead Keeper, Zoo Atlanta, Atlanta, GA

“Training Bears for Voluntary Blood Collection”
June 2010

Laura Laverick, Keeper II
Courtney Murray, Keeper III
James Sanford, Assistant Supervisor of Tropical Ecosystems
Kansas City Zoo, Kansas City, MO

***“Human Intervention in the Rearing of an Infant
Bornean Orangutan (*Pongo pygmaeus pygmaeus*)***
November 2010

Rebecca Bearman, Lead Keeper/Birds & Program Animals, Zoo Atlanta, Atlanta, GA

***“Protocol for Training Select Individuals from a Large Group
of Socially Housed Anubis Baboons (*Papio Anubis*)***
October 2010

Rick Smith, Bird Keeper/Penguins, Saint Louis Zoological Park, St. Louis, MO

***“Bringing Up the Seattle Four -
A Success for Humboldt Penguins”***
October 2010

Rebecca Bates, Primary Keeper, Tracy Aviary, Salt Lake City, UT

***“Cooperative Breeding Behavior in Captive
Southern Ground Hornbills (*Bucorvus leadbeateri*)***
February 2011

2011 Cover Art Recipient

Leopard (*Panthera pardus*)
March 2011

Elena V. Chelysheva, Ph.D.
Former Curator Moscow Zoo/Cheetah Social Behavior Researcher
Moscow, Russian Federation

A Different Approach to Raising a Ruppell's Griffon Vulture (*Gyps rueppellii*) Chick by Utilizing Both Hand-Rearing and Parent-Rearing Techniques

By Christopher Torge, Animal Keeper; Victoria Shaw, Animal Keeper;
Kim Szawan, Animal Keeper; Tim Pinkerton, Zoological Manager,
Disney's Animal Kingdom Lodge®, Orlando, FL

Introduction

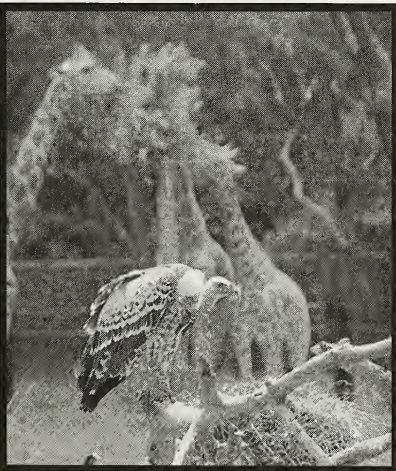
Ruppell's griffon vultures (*Gyps rueppellii*) are found throughout Central Africa. They have an average wingspan of 2.4 meters and weigh an average of eight kilograms. This species of vulture is listed as "near threatened" according to the IUCN. Issues affecting their declining population numbers include habitat loss due to encroaching farm land, loss of their main food source (wild ungulates), and poisoning. Poisoning and death occur after vultures consume the remains of livestock treated with the commonly used anti-inflammatory medication, Diclofenac. Conservation efforts are underway to stop the use of Diclofenac, replacing it with medications not lethal to vulture species.

Disney's Animal Kingdom Lodge is a 110-acre African-themed vacation resort. Guests staying at this resort are surrounded by 45 acres of animal habitat viewable from their private rooms, as well as from common guest areas and a restaurant. The animal collection consists of 35 species of African hoofstock and birds separated into four separate mixed-species habitats. Disney's Animal Kingdom Lodge®, which opened in 2001, has historically always had Ruppell's griffon vultures as part of its animal collection.

In the winter of 2009, the flock of Ruppell's griffon vultures housed at Disney's Animal Kingdom Lodge® welcomed two new members. Two chicks hatched out on 8 January and 10 January from two sets of parents. This was the first time this species ever hatched at Disney's Animal Kingdom



The vultures and other mixed-species wildlife may be seen from guests' rooms.



Giraffe share habitat with the vultures.

Lodge®, and the animal care staff had been eagerly waiting for these hatchings to occur. Although both sets of parents had never raised chicks before, the staff was optimistic that the birds would be successful parents. This paper will discuss the challenges the animal care staff faced when one set of the inexperienced parents proved to be unable to raise their chick by themselves. The methods used to successfully assist these parents in raising their chick in an 11-acre mixed-species exhibit is the focus of this paper.

Challenges

During the first five days, the chick appeared in good health. The parents were observed offering regurgitated food to the chick and all seemed normal. The neonate exam on Day 2 went well and no issues or concerns were noted at that time. The initial plan was to leave the chick with the parents for rearing. The first sign of challenges

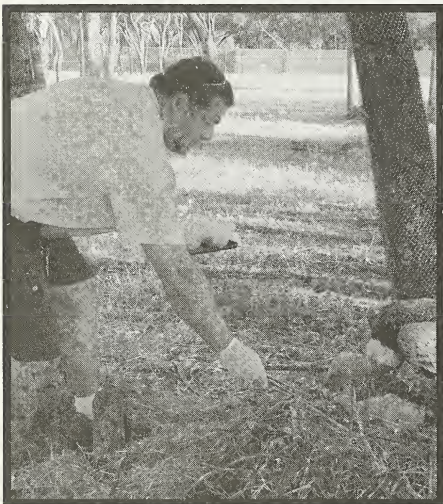
began on Day 6. These challenges included lack of parental feeding, cold weather, and protective parents.

Medical

On Day 6 the chick was unresponsive and lethargic and was transported to the veterinary hospital for evaluation. Upon examination it was noted that the chick's crop was empty and she had lost 18 grams in four days. The chick was tube fed and held overnight for observations. Within 12 hours the bird's condition improved greatly and she started taking small pieces of chopped mouse pinkies offered with forceps. Our assumptions were that the parents were taking care of the chick in all aspects, except adequate feeding. We decided to return the chick to the nest and developed a supplemental feeding and weighing schedule, instead of pulling the chick for traditional hand-rearing.

Feeding Issues and Solutions

During the discussion of how to raise this chick, the animal care staff identified that the two priorities were to be able to feed the chick reliably on a set schedule, and to reduce imprinting on the keeper staff. The parents had been constantly brooding and protecting the nest site, so the staff felt that leaving the chick with the parents and only assisting with its feeding was the best approach to lessen the likelihood of imprinting on the animal care staff. A feeding and weighing schedule was implemented and a core group of keepers were assigned to handle these responsibilities. The average temperatures in Central Florida in January 2009 were lower than normal. Daytime temperatures remained in the 40's and it wasn't uncommon to have temperatures dip into the low 30's overnight. Initially the chick had to be pulled from the nest and placed into a heated brooder during its feeding sessions.



Keeper using tongs to feed the chick while she is still on the nest with her parents.

competition between the chick and the parents over the food items. This method also made recording consumption for the chick difficult. The keepers tried a third method to address these problems. By now the parents had become comfortable with the keepers around the nest. The keepers were able to approach the nest and distract the parents with food placed in a shallow bowl, allowing keepers to feed the chick with a long pair tongs. Over the course of several days the parents started to take the food from the tongs and offer it to the chick. This method of feeding proved to be very successful and continued until the chick was weaned and station training was started.

Diet and Weight

The diet offered to the chick was calculated by

Protective Parents

Due to the protective nature of its parents, removing the chick from the nest proved to be a challenge. Nets and large metal shields were used to encourage the parents away from the nest. Once at a safe distance, keepers were able to safely remove the chick, place it in the brooder located in the back of a pickup truck several yards away from the nest site, and commence with the scheduled feeding. Once the chick was returned to the nest, the parents quickly started to brood the chick again. This method proved frustrating for both the birds and keepers due to the invasive nature of removing the chick from the nest. To alleviate the frustration an alternative method was developed that involved not removing the chick from the nest. Keepers started tossing the chick's prepared diet items one at a time onto the edge of the nest just in front of the chick who then consumed it. With this new feeding method the keepers started to see an increase in



Food items handed to the adult female by keeper staff being fed to the chick.

the Animal Nutrition Department at Disney's Animal Kingdom. The amount of food offered was adjusted daily to achieve a 5% to 10% body weight increase per day. Vionate® and calcium carbonate were used as supplements. Initially the feeding times were at 0800, 1200, and 1600hrs which fit well into the keeper's scheduled observation runs. The chick was weighed before feeding for the first 16 days, then an every other day weighing for the next month, and then once a week until she was weaned in April.

The initial diet for the first few days was diced mouse pinkies. Then 12 days post-hatching she was started out on a 25% carnivore meat diet and 75% mouse pinkie diet. At 20 days posts-hatching the mouse pinkies were replaced with rat pups. At 25 days skinned mice were added to the meat and rat pups. At 31 days of age the fur was left on the mice, but they were cut into thirds with the tails cut off. On 14 February 2009 the chick started to show cast throwing behavior. At the beginning of March the keeper staff reduced her feedings to two times a day at 1200 and 1600hrs. At 51 days of age she was offered whole mice with their undersides split open. As part of the adult vulture's enrichment program the chick was next exposed to rabbit carcasses and large meaty bones in mid-March. On 24 March she was seen exploring outside of the nest, but hopped back inside for feeding. On 28 March she was moved to a once-a-day feeding and transitioned towards a full adult diet. It should be noted that at this time the adults stopped responding to the begging behavior from the chick and started competing with her during feeding. Once the chick had started to move around the nest site on a regular basis, more formal husbandry training was implemented. The chicks parents were already station trained so we began training this behavior to the chick as well.

Training Methods for Feeding

As per the existing husbandry management at Disney's Animal Kingdom Lodge®, all the animals are trained to come off-exhibit once a day where they receive a substantial portion of their diet. The hoofstock are trained to enter a barn adjacent to their savanna exhibit, and the vultures are trained to enter a fenced in area, called "bird pens," at the back of the exhibit as well. To get them into their bird pens keepers use a visual cue in the form of a Disney's Animal Kingdom Lodge® Flag. Keepers wave the flag and this is the cue for the vultures to come into the pens to receive most of their diet. In the bird pens keepers have trained the vultures to jump onto one of several tree stumps placed in a circle. Only once they have stationed on a stump do they receive their diet tossed to them in the form of carnivore diet meatballs and rats. The command/or audio cue "Station" is used for getting the vulture to stand still on the log, accompanied with a visual cue of a two-fingered point towards the log. At 134 days of age the chick stationed for the first time at the nesting site. Twenty days later she was cueing to the feeding area and stationing with the rest of the vultures.

Conclusion

Today "Wednesday", as this vulture is now known, is fully intergraded into the Ruppell's griffon vulture flock at Disney's Animal Kingdom Lodge®; she exhibits all the proper social behaviors towards the other vultures and appears to be dominant over most of them as well. This supports that the animal care staff was successful in combining hand-rearing and parent-rearing techniques in a way that allowed "Wednesday" to become a healthy adult vulture and at the same time prevented her from becoming overly imprinted on the keeper staff. By not becoming imprinted, "Wednesday" now has a greater chance of becoming part of the breeding program at Disney's Animal Kingdom Lodge®. Through the daily interactions at close proximity to "Wednesday" and her parents, these particular vultures were habituated to close keeper contact. This has led to less nervous behaviors when keepers do have to get close to these birds for management sake. This has also led to more compliance when the birds are shifted into the bird pens for feeding. The outcome of this modified rearing method resulted in fledging a vulture chick without compromising their natural behaviors while maintaining proper nutritional and medical needs.

(Photos by Disney Animal Kingdom Lodge® Animal Care Staff)



An adult vulture stationed on a log receiving tossed meatballs.

The AAZK Behavioral Husbandry Committee Presents

Training Tales...



Where you can share your training experiences!

Training Tales Editors – Jay Pratte, Omaha's Henry Doorly Zoo;
Kim Kezer, Zoo New England; and Angela Binney, Disney's Animal Kingdom

Insulin Injection Training with Jody the Chimpanzee

By

Dan Powell, Primate Keeper,
Potawatomi Zoo, South Bend, Indiana

It was fall, 1991, while attending the AAZK National Conference (hosted by the Toledo Zoo), that I became truly amazed with the potential benefits of animal training. While behind the scenes in their great ape holding, I watched a young keeper hand inject a calm orangutan (*Pongo pygmaeus*)!



Jody, the Chimpanzee, contemplating her new life at John Ball Zoo in Grand Rapids, MI (Photo courtesy of Julie Katt, John Ball Zoo).

I had cared for our three chimpanzees (*Pan troglodytes*) for only a few years at the time, but witnessed the complete rodeo that ensued when blow darting was necessary. Everyone (keeper, vet and of course the chimp) was completely stressed with the resulting din of screaming, flying feces and hostile feelings.

As many conference attendees do, I returned to Potawatomi Zoo enthusiastic with thoughts of a chimpanzee sitting calmly for a hand injection. Our zoo director gave permission to begin a chimp training program, though skeptically noting that chimps might be too intelligent and wild a species to willingly accept a hand injection. I pulled out my old behavioral psychology books to refresh my memory of operant conditioning techniques. Without any formal education in applied principles of training, I began working with our three chimps. A year later, I was able to hand inject all three chimps with varying degrees of success for chemical immobilization. Our youngest female, Jody, was a very difficult subject. Injection training continued after that first procedure. Jody continued to be quite reticent; perhaps remembering that one day it was 'for real'.

it was 'for real'. Jody continued to be very stubborn and problematic.

As the years progressed, I had many successful hand injections, as well as many unsuccessful attempts. Chimps are so intelligent, they often seem able to sense those days

August 2002, after Jody's routine physical (unsuccessful hand injection), I was called into our vet's office and received one of the most difficult pieces of news of my entire career. Jody's blood work indicated that she was diabetic! She was, in fact, profoundly diabetic and needed to be on daily insulin injections. As this devastating news sunk in, I realized that Jody's life (and mine) was forever

changed. The onus was now on us to train a very difficult chimpanzee to daily accept what she most detested: an injection! Further, to do so without the ability to use as reinforcement that which she loved most. Sugary sweets and even fruit, were now extremely limited in her diet.

We brought in a training specialist and completely reevaluated our training program. Modifications were made and, over the next six months, we witnessed slow limited progress. One step forward and two steps back was the rule. We would try to slowly advance in training, only to see inevitable regression.

In February, 2003, Jody was immobilized again to evaluate her blood levels after six months of oral medications. Our consulting diabetes specialist evaluated Jody's blood results. She said, quite bluntly, that Jody would soon die without insulin.

With a sense of growing desperation, we again modified training and diet. We attempted the same training steps, with slightly different and more subtle changes. We used every kind of low sugar and low carbohydrate snacks that we thought might be reinforcing. We slowly, very slowly, saw a pattern of training progress. We refined techniques that worked, and discarded those that produced regression. New trainers were recruited for fresh ideas. Many experts were consulted.

It was January, 2004 that I filled an insulin needle with insulin for the first time. We were so close! Jody presented her arm, and I injected her! Although she was angry, hostile and completely disgruntled with the affront, I jackpotted her hugely! Jody accepted an insulin injection!!! That one moment may be the zenith of my career! I knew that we had added years to her life.

Over the course of the next few months, Jody began to solidly and reliably accept daily injections of insulin. To this day, even now placed with another zoo (John Ball Zoo, Grand Rapids, MI), she continues to be reliable.

There are several morals here:

1. Never give up! Even subtle changes to training protocol or reinforcement might produce results.
2. Add new trainers. A fresh perspective can sometimes be invaluable.
3. Consult the zoo world. We are an amazing group of dedicated and passionate people! Most will be happy to share insights. Remember that failures can be every bit as informatively valuable as successes.

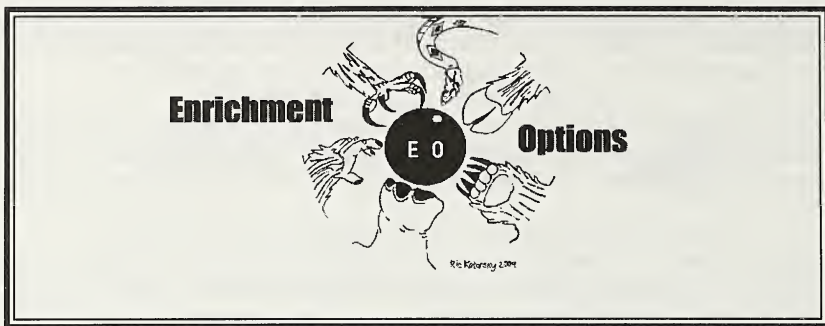
There are so many people who have had a part in this success story, I cannot even begin to list them all. They know who they are. They know the important role they played. I hope they all know how personally appreciative I am. They have all aided in adding years to Jody's life! From the one keeper at Toledo, so many years ago, who was my inspiration, to the dedicated folks at Jody's new home - Thank You All!

AAZK Behavioral Husbandry Committee Comments: By Angela Cecil Binney

As animal keepers, some of the best lessons we can learn come from experience with our animal charges. Necessity often teaches us that we can break traditional or perceived barriers for the benefit of the animals. This is a great example of such a case and Dan handled it like a true keeper with determination and commitment. I especially like his added list of learning points and the trial and error process that he shared. This story is positive reinforcement for AAZK, too! Dan showed us that the collective efforts of the contributing members really have a positive influence on the quality of animal care we can provide. Thank you, Dan for sharing your story in Training Tales!



Trainer Julie Katt gives Jody an insulin injection. (Photo courtesy of Barb Snyder, General Curator, John Ball Zoo)



EO Editors -

Julie Hartell-DeNardo, Saint Louis, MO and Ric Kotarsky, Tulsa Zoo & Living Museum

Bloodsicle on a Bungee Feeder for Caracals

By

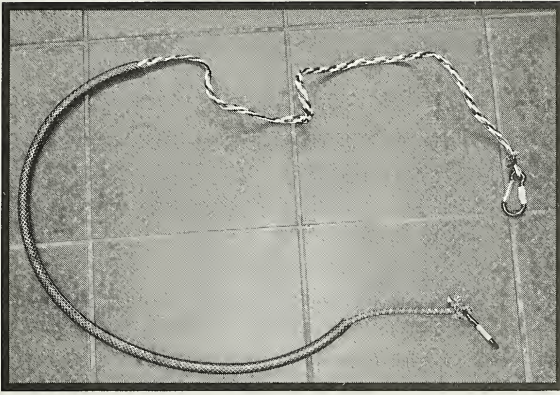
*Deborah Wettlaufer, Enrichment Officer
Cheetah Outreach
Cape Town, South Africa*

Our caracal (*Caracal caracal*) is very food-motivated and always eats rapidly. Because she lacks her back molars, we cannot give her small bones, such as chicken on the bone, but we sometimes give her large turkey or horse bones to prolong feeding. As a special treat, she is occasionally given a 'bloodsicle' made of frozen blood and pieces of meat. To provide more of a challenge, I decided to hang a larger bloodsicle for her. I froze blood and 150g (~5.3 oz.) of turkey pieces in a medium-sized plastic container with a string with knots inserted through a hole in the middle of the top so it would freeze in the center of the bloodsicle.

To make it even more interesting for her, we hung the bloodsicle from a bungee feeder. The bungee feeder consists of one meter of bungee cord with one end attached to a length of nylon cord with a clip on the end to attach it to the top of the enclosure. The other end also has a clip from which various food items can be attached. The bungee cord is contained within one meter of garden hose to prevent it from wrapping around any of the animal's extremities or swinging back in the animal's face.

After we hung the bloodsicle, she immediately came to investigate it. At first she seemed a little confused about how to approach it since she is used to her bloodsicles on a flat surface. She tried to lick the bloodsicle from a standing position but every time she licked it, it moved about. She constantly moved around it to gain a better position, batting at it and trying to grab it when it moved. Eventually she figured out that sitting down and holding it with one paw kept it from moving around so she could lick continuously. If the bloodsicle moved at all, she dug her claws in deeper to stabilize it. As blood dripped on to her fur, she stopped a few times to clean herself, and then resumed licking. While licking, she appeared as though she was in a trance, oblivious to everything around her.

As she licked the bloodsicle, the meat at the bottom gradually was exposed and she became very excited. She tried a new tactic of grabbing the meat with her teeth and trying to rip it out of the



Bungee cord housed within length of garden hose with clips on each end for hanging.

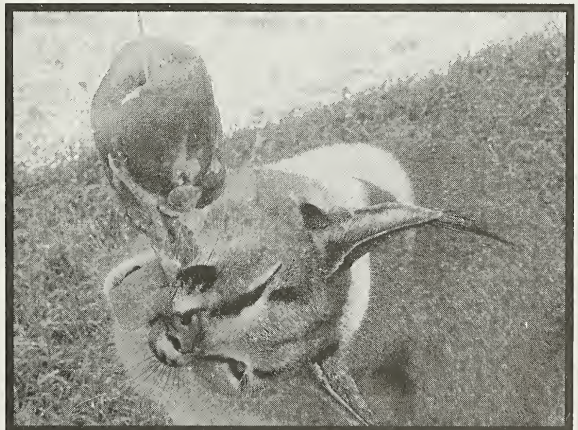


Caracal holds the 'bloodsicle' in place to lick it



Caracal investigating the 'bloodsicle'

All photos by the author



Caracal stripes turkey parts from 'bloodsicle'

bloodsicle. Occasionally she tried to carry the whole bloodsicle off but it bounced away from her and she ran after it, grabbed it and began ripping at the meat again. She worked at it until the bloodsicle and meat were gone.

We considered this exercise successful in that it prolonged feeding, challenged her cognitive skills and kept a very intelligent and active cat busy for almost 45 minutes.

BHC Comments by Enrichment Options Co-Editor Julie Hartell-DeNardo:

Deborah, thank you for sharing your paper with the AAZK *Forum* readers. This is a great example of using a food presentation-based enrichment strategy to increase both the behaviors involved in food consumption as well as the amount of time spent engaged in food acquisition-related behaviors. The animal is stimulated mentally to figure out how to obtain the more challenging and enticing food. Additionally the caracal participated in more physical activity, using more muscles and energy than it would if just presented with food in a routine location. This creative feeding strategy could be effective with other small carnivore species or even large carnivores – or if the meat and blood are substituted for produce and juice this idea may even translate into primate species applications.

Some safety considerations to keep in mind with bungee and rope enrichment components is to:

- ensure no loops exists that could act to trap an appendage or head,
- determine a length that minimizes slack and prevents the possibility of excess to wrap around an animal or body part, and
- when possible, enclose rope/bungees in pvc or other piping that can act to stabilize the length of the rope/bungee and prevents wrap around or dangerous loops from forming while the animal is engaged with the enrichment.

Thanks again to Deborah for this fantastic idea with diverse potential applications!

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CONSERVATION STATION

Programmatic and Financial Report Sumatran Rhino Conservation Program

*By Susie Ellis, PhD, Executive Director IRF
Maggie Moore, IRF Program Officer*

The International Rhino Foundation is grateful for the contribution provided by the American Association of Zoo Keepers (AAZK) Bowling for Rhinos program to the Rhino Protection Unit (RPU) program in Indonesia. Thanks in part to your continuing support, there have been no incidences of poaching of Javan rhinos in the past 15 years, and none of Sumatran rhinos in Bukit Barisan and Way Kambas National Parks in Sumatra for the past six years.

IRF is pleased to provide the following report on our Javan and Sumatran Rhino Conservation Program and the work of the Rhino Protection Units so far in 2011, and the use of AAZK Bowling for Rhinos funding.

Javan Rhino Conservation Program

Indonesia's remote Ujung Kulon National Park holds the only viable population of the Critically Endangered Javan rhino (*Rhinoceros sondaicus*). No more than an estimated 44 Javan rhinos remain on the planet, and surveys and other data suggest that only four to five females are still breeding. Javan rhinos persist in Ujung Kulon because they are carefully monitored and guarded by IRF's Rhino Protection Units (RPUs), elite anti-poaching teams that patrol the park every day. Over the past 15 years, this intense monitoring and protection has essentially eliminated losses from poaching. Evidence suggests that the species has recently been extirpated in Vietnam, where what may have been the last individual was poached in May 2010.

During the first quarter of 2011, the four RPUs operating in Ujung Kulon National Park removed 12 illegal traps/snares and stopped one illegal fishing operation. The Ujung Kulon RPUs averaged 21.5 days per month on patrol during the first three months of the year, walking a total of 669 kilometers (416 miles). Seventy-three rhino footprints were identified.



Rhino Protection Units spend at least 15 days/month on patrol in the parks.

(Photo: Yayasan Badak, Indonesia)

The breeding population of Javan rhinos occupies primarily the western half of Ujung Kulon National Park (UKNP), and thus is susceptible to catastrophic losses from disease or natural disasters. Although the population is believed to be relatively stable, it likely has reached its carrying capacity in the current habitat and probably cannot grow any larger without intervention.

For the past 15 years, RPU's, partially funded by the AAZK, have kept the Ujung Kulon population safe from poaching. However, protection in itself isn't going to be enough to save the species from extinction. Over the long-term, the population needs to be spread out, with a second viable population established elsewhere in Indonesia. The first step towards accomplishing this goal is to create conditions that will allow the existing population to expand by increasing the habitat available in eastern UKNP (in the Gunung Honje area).

Over the past year, IRF, through its implementing partner Yayasan Badak Indonesia (YABI or Rhino Foundation of Indonesia) and supported by the Asian Rhino Project, Save the Rhino International, WWF, and other donors, has been working to expand the useable habitat for Javan rhinos in UKNP by creating the 4,000 hectare Javan Rhino Study and Conservation Area (JRSCA). The project intensifies active management in Gunung Honje (in the eastern portion of the park), with the short-term objective of providing more habitat to allow the population to increase. We are doing this by constructing small bridges, an electric fence, and a patrol road; eradicating invasive species which have taken over a good portion of the habitat; planting rhino food plants; providing a water supply and saltlick; and constructing additional guard posts. The continued survival of the Javan rhino depends on their population increasing in numbers as rapidly as possible, and in spreading the population out so that 'all the eggs are not in one basket'. The JRSCA eventually will serve as a 'staging ground' from which translocations to a second site can occur.

As one of the first steps towards establishing the JRSCA, we began working on a plan to fairly relocate families living inside the Park boundaries so that we can make the area as safe as possible for the rhinos. UKNP authorities successfully negotiated with people living in the Gunung Honje area and to-date have helped moved 51 families living illegally in the park. These families agreed to relocate outside park boundaries, and will be eligible to participate in various job opportunities, possibly to include construction/development of the JRSCA.

Other early steps include building three new guard posts to provide for the security of the area. Construction of the guard posts is underway; one has been completed in the Cilantang area of the park the rest will be completed by July.

At the same time, we are working on constructing a fence on the eastern part of the park to keep domestic cattle, which carry disease to which rhinos are susceptible, from entering the park. The map here shows the eastern half of UKNP, with the Gunung Honje/Javan Rhino Study and Conservation Area shown between the two black/red lines. The fence will also make it easier for biologists and veterinarians to study the rhinos. Workers have already begun clearing a small, unpaved road along the fence placement.

Our next immediate focus will be on restoring good habitat for the rhino in the JRSCA area. Much of the park has been taken over by the invasive Arenga palm (*Arenga obtusifoliae*) – (imagine a pasture overgrown with weeds, only this is a rain forest). The JRSCA area has been re-zoned as a 'research zone' in order to accommodate our work to eradicate Arenga palm. A supporting environmental risk assessment was carried out prior to beginning the work. We are beginning clearing of the palm, and as soon as that is completed, will begin re-planting rhino food plants to attract rhinos to the JRSCA area, while also keeping them safe through the efforts of the RPU's.

Sumatran Rhino Conservation Program

The Critically Endangered Sumatran Rhino is also generally considered the most endangered rhino species. Sumatran rhino (*Dicerorhinus sumatrensis*) numbers have declined more than 70% over the

last two decades due to poaching for its horn as well as increasing destruction of its habitat. Fewer than 200 Sumatran rhino survive in very small and highly fragmented populations in Southeast Asia, with Indonesia and Malaysia the only significant range countries. The largest populations of wild rhinos are found in Bukit Barisan Selatan (BBS), Gunung Leuser, and Way Kambas (WK) National Parks in Sumatra, Indonesia; there are also small populations in the Tabin Wildlife Reserve and in Danum Valley in Sabah, Malaysia.

With YABI, the IRF operates a multi-faceted program including protection of Sumatran rhinos and their habitat (through our RPU's), research on and captive breeding of the species at the Sumatran Rhino Sanctuary, and outreach to local communities (including both education programs and alternative income development).

Wildlife Protection and Community Outreach

Bukit Barisan Selatan National Park (BBS) and Way Kambas National Park (WK) in Sumatra, Indonesia, are two of the three major habitats for Sumatran rhino, and are also two of the highest priority areas for other threatened megafauna, including the Sumatran tiger (*Panthera tigris sumatrae*) and Sumatran elephant (*Elephas maximus sumatrensis*). Approximately 50 rhino, 40-50 tigers, and about 500 elephants inhabit BBS. Way Kambas is home to 25-35 Sumatran rhino. The main cause of the initial decline of Sumatran rhinos was poaching for horn, which is used in traditional Chinese medicine. Now, the populations are also limited by available habitat, which is continuously being encroached by human populations. IRF and YABI operate seven Rhino Protection Units in BBS and five Rhino Protection Units in WK.

Thanks to the RPU's, there have been no incidences of poaching of Sumatran rhinos in BBS and WK in Sumatra for the past six years. The RPU's also protect numerous other threatened species, including tigers, elephants, tapirs, monkeys, leopards and fishing cats.

During the first quarter of 2011, the RPU's operating in BBS and WK destroyed 91 traps (primarily intended for birds, deer and wild pigs) and made a total of 15 arrests. Six suspects were arrested for illegal logging and two were arrested for bird poaching.



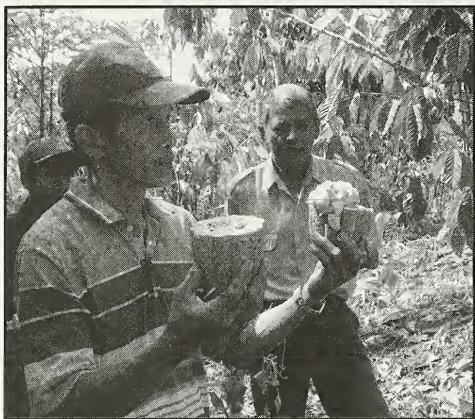
Sumatran Rhino (*Dicerorhinus sumatrensis*)
(Photo: Dr. Dedi Candara)

In partnership with park rangers and local police in BBS, the RPU's there undertook joint intelligence operations resulting in the arrests of seven suspects for trade in illegal wildlife parts. Two of these suspects were arrested in possession of small pieces of ivory and tiger and leopard skins; five were arrested in possession of spears, deer antlers, and two large pieces of ivory (which they had advertised for sale at US \$5,000 each).

The Sumatran rhino RPU's averaged 17 days per month on patrol during the first three months of the year, walking a total of 759 kilometers (472 miles). They conducted six illegal logging investigations and 26 illegal encroachment investigations, and destroyed eight illegal camps or cabins within the parks. The WK RPU's also destroyed two bridges built to provide illegal access into the park, and halted three illegal fishing operations.

The five RPU's in Way Kambas have been working overtime planting rhino and elephant food plants in the park. This work is being carried out in an area that park authorities seized back from encroachers. In a large collaborative effort with park authorities, police, and local people, the RPU's helped remove around 500 'squatters' from the park and destroyed about 300 temporary houses. An illegal fishing village also was relocated from the mouth of the Way Kanan River. Now, 100% of encroachers have

been removed from inside the park – an unprecedented accomplishment! Our team is now helping to regenerate the land previously cleared by the encroachers by planting native plant species that will provide food for Sumatran rhinos and elephants. The Sumatran rhino population in Way Kambas appears to have grown to 33 animals and there have been signs of new rhino calves.



Local farmers participate in training on environmentally-friendly cacao production (to help increase incomes and reduce park encroachment).

(Photo: International Rhino Foundation)

The RPU's also are working with communities adjacent to WK on alternative farming practices, so that local people living near the park can earn income for their families without encroaching in the park to clear land and plant crops there. Through a grant from the Wildlife Conservation Network, the RPU members have been able to build demonstration plots using environmentally-friendly agricultural practices, where they can conduct trainings on sustainable farming for local villagers. (Pictured to the right is a farmer training session on cacao production.) On these "demplots," Way Kambas RPU members have planted small crops of wood trees and rubber plantations - although it takes seven years before the first harvest, the long-term benefit is that yearly returns are relatively high (for example, US \$500 per hectare for rubber plants). We are working to raise more funds to expand this pilot program.

Recently, 30 of our RPU members attended a week-long training in MIST (Management Information System), led by staff from the Wildlife Conservation Society. MIST is a simple, user-friendly database for ranger-based law enforcement monitoring. This methodology has great potential for the RPU work, particularly in putting the rhino data in a central database for the parks, which will be accessible to the park authorities. MIST provides a standardized format for recording movements of patrol teams and recording observations of illegal activity and carcasses, and so will be useful for identifying gaps in patrol coverage, emerging threats and problems, and for surveillance of known crime hotspots. MIST also provides a way of producing important status and distribution information on rhinos, elephants, tigers and other key species, which can also feed into national monitoring programs set up for these species. We believe implementing this system will further improve our intelligence and law enforcement activities, resulting in even more arrests and successful prosecutions of poachers and others committing illegal activities.



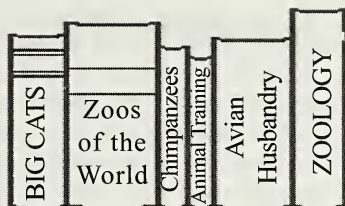
Upcoming AZA National Conferences

September 12-17, 2011 - AZA 2011 Annual Conference - Zoo Atlanta, Atlanta, GA

September 8-13, 2012 - AZA 2012 Annual Conference - Hosted by Phoenix Zoo, Phoenix, AZ

September 7-12, 2013 - AZA 2013 Annual Conference - To be hosted by the Kansas City Zoo, Kansas City, MO.

For more information on AZA Conferences see http://aza.org/ConfWork/AC_Intro/index.html



Did Not Survive

By Ann Littlewood

Poison Pen Press, 6962 E. First Avenue, Suite 103, Scottsdale, AZ 85251

258 pages, \$14.95

ISBN: 978-1-59058-745-4 (Hardcover) ISBN: 978-1-59058-747-8 (Trade Paperback)

*Review by Linda Reifschneider, Docent
Saint Louis Zoo, Saint Louis, MO*

I always check for any book reviews that may be included in the new issue of *Symbiosis* and have been directed to many good educational pieces.

But I can only spend so much time reading Fowler & Mikota's elephant medical text, papers forwarded by Melissa Groo's news service and every other good and important message out there.

Every once in a while, I just need to kick back and read something that is enjoyable and has me turning the pages in either suspenseful or joyful anticipation. And when such a story is set within a zoo, for folks like me – and possibly you – how much better can it get?

Ann Littlewood's "zoo-dunnit" *Did Not Survive* is the tale of a violent death....an elephant with means and opportunity – but no motive.....and a zoo keeper driven to find the truth. Ann is a former zoo keeper who, from her experience, brings the setting, the dialog, the concerns and the feel those of us connected with our zoos can understand and appreciate. She also brings in the issues of managing elephants in today's world.

For further information you may want to check out www.zoomysteries.com. I promise you a great read and a new favorite author!

New Book Available Gratis

A Runaway Train in the Making: The Exotic Amphibians, Reptiles, Turtles and Crocodilians in Florida

By Walter E. Meshaka, Jr.

2011. Herpetological Conservation and Biology 6 (Monograph 1): 1-101

From the Introduction: As of 2004, 40 exotic species of herpetofauna occurred in established populations in Florida (Meshaka et al. 2004a), and two years later, Meshaka (2006) reviewed the inclusion of six more species. Yet another species appeared as established in 2007. In light of a wealth of new published information since Meshaka et al. (2004a) went to press and a continuing accumulation of new exotic species and colonies of existing exotic species, it became apparent that an update of Meshaka et al. (2004a) was warranted. Thus, this new edition is both a snapshot in time and a progress report, providing a summary of Florida's exotic herpetofaunal phenomenon. Its goal remains unchanged: to convey to an audience of budding naturalists, land managers, professional biologists, and those at regulatory institutions what is currently known and unknown about the established ecology and colonization dynamics of each established species. This will better enable interested individuals to understand the colonization process and will provide them useful information with which to make wise management decisions.

A pdf of this article is available gratis from the Herpetological Conservation and Biology web site at http://herpconbio.org/Volume_6/Monograph_1/Meshaka_2011.pdf

Chapter News. . .

Battle Creek AAZK Chapter

Battle Creek AAZK was chartered in the fall of 2007. Although we are a relatively young Chapter, we can count many proud accomplishments!

For our major fundraiser each year, we have designed creative calendars featuring pictures of animals at Binder Park Zoo, including our native wildlife. Increased popularity and demand have yielded profits that have helped to fulfill our goal of supporting a different conservation organization each year. We recently donated \$500 to the Southwest Michigan Land Conservancy, a local organization dedicated to the preservation of various native habitats and its species. Groups we've supported in the past also include the Michigan Audubon, Cheetah Conservation Fund, Snow Leopard Trust, Bushmeat Crisis Task Force and The Nature Conservancy.



Battle Creek AAZK members present a check for \$500 to the Southwest Michigan Land Conservancy. (Photo: Kaylee Kernstock)

A few years ago, we initiated the Baking for Enrichment (BFE) program, where 100% of profits made from a weekly bake sale in the zoo office go toward enrichment for the animals at Binder Park Zoo. To date, over \$600 has provided for giraffe puzzle feeders, boomer balls and toys for primates and likit treats for hoofstock—just to name a few!

We're also dedicated to supporting our Chapter's zookeepers in the pursuit of greater knowledge and experience through professional development opportunities. Such individuals have been able to attend the annual National AAZK Conferences, and, more recently, the African Painted Dog Workshop and 2011 Felid TAG Meeting.

BATTLE CREEK



Our logo, shown above, was designed by Mike Murray and was adopted by our Chapter in 2007.

We just wrapped up another successful Bowling for Rhinos (BFR) event, which was held on July 29th at Char-Lanes in Charlotte. Despite a last-minute change in location due to tornado damage at a local bowling alley in Battle Creek, we were thrilled to have our biggest turnout yet. Altogether, over 100 people came out for a great night of fundraising, fellowship and fun -- all in the name of conservation!

~Jessica Schauger, Chapter Liaison

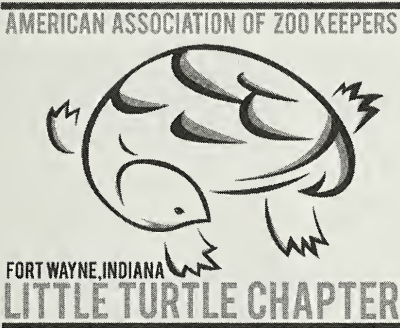
Saint Louis AAZK Chapter

Members of the Saint Louis AAZK Chapter celebrated National Zoo Keeper Week with an Appreciation Reception on 20 July. Members and other zoo staff enjoyed a BBQ potluck while sharing fond memories of the zoo and celebrating the amazing work keepers there do each and every day. The Chapter had a drawing for a chance to win a \$100 donation to the conservation cause of the winner's choice. They also had two drawings for one-year memberships in AAZK.



Little Turtle AAZK Chapter

On 15 April 2011 the Little Turtle Chapter of AAZK based in Fort Wayne, IN received their official Charter from AAZK, Inc. We chose our Chapter name for a few reasons; Chief Little Turtle was a Native American from the Miami tribe that lived in the region. The Miami tribe’s sacred bird was the Sandhill Crane. The other reason the name was favored by members was due to the involvement of many of the Fort Wayne Children’s Zoo Keepers with the Kalamazoo River oil spill in Michigan last year. We spent many months traveling each day to Marshall, MI to help clean thousands of affected turtles and other wildlife.



The logo was designed by Josh Volz (FWCZ Herp Keeper) and adopted on 9 March 2011.

In January we held elections for the first time to start the Chapter process.

Elected officers are:

- President.....Brooke Stowell
- VicePresident.....DeAnn Harris
- Treasurer.....Whitney Jones
- Secretary.....Angie Selzer
- Liaison.....Elaine Kirchner

Our first official event as a Chapter was participating in a M.O.M.’s (Missing Orangutan Mothers) event for Mother’s Day where we were able to inform many zoo guests about the plight of orangutans in the wild. We also have had numerous bake sales in order to raise funds to buy supplies to clean up the local creek near the zoo as well as raise funds for Bowling for Rhinos. We were also lucky enough to have an information table set up during National Zoo Keeper Week where we reached out to zoo guests with fun games and information on keepers.

~ Angie Selzer, Secretary

New England Chapter of AAZK

The New England Chapter of the American Association of Zoo Keepers (AAZK) kicked off National Zoo Keeper week with its second annual Ape Rock on 16 July inside the Tropical Forest at Franklin Park Zoo in Boston, MA.

The second annual Ape Rock was another huge success for our Chapter. We were able to raise ape awareness to the general zoo public and also raise more than \$1,000 to pay for our third year of dues for the AZA/Ape TAG Conservation Initiative. Through the AZA/Ape TAG Conservation Initiative we are able to help support the Goulougo Triangle Ape Project (GTAP): Securing the Future of Gorillas and Chimpanzees in a Changing Landscape. GTAP is a project in the Republic of Congo dedicated to supporting the conservation of gorillas and chimpanzees in the area. They are looking at the behavior and ecology of the ape populations and how logging in the area is affecting gorillas and chimps. By doing this they hope to be able to make recommendations on how to conserve the ape populations. More information about the project can be found at www.apetag.org.

In January 2010, the New England Chapter of AAZK held its first Ape Rock at Franklin Park Zoo. This was a 24-hour rock-a-thon where the Chapter collected pledges to have the Chapter President rock in a rocking chair throughout the event. During the event, the public also had



Chapter President Dan McLaughlin ‘rocks’ for great apes.

the opportunity to ask the Chapter President, who is also a Senior Zookeeper caring for the gorillas and many other animals inside the Tropical Forest at Franklin Park Zoo, ape and conservation-related questions. The event also featured three different story times with animal-related stories for young conservationists.

The goal of Ape Rock was to raise public awareness of apes and ape conservation and also to help the New England Chapter of AAZK join the then forming Association of Zoos and Aquariums (AZA)/Ape Taxon Advisory Group (TAG) Conservation Initiative. AZA's Ape TAG Conservation Initiative is comprised of different zoological institutions and other zoo-related groups who commit to paying yearly dues that support wild ape conservation programs.

The ape family includes bonobos (*Pan paniscus*), chimpanzees (*Pan troglodytes*), gorillas (*Gorilla gorilla gorilla*), gibbons (*Hylobates concolor*), orangutans (*Pongo pygmaeus*), and siamangs (*Symphalangus syndactylus*). In the wild, apes face a host of deadly threats including illegal hunting, habitat loss as a result of mining, logging and agricultural conversion, disease and the pet trade.

For more information contact: Dan McLaughlin, President of the New England Chapter of AAZK at dmclaughlin@zoonewengland.com

~ Dan McLaughlin, Chapter President

Let Us Hear About Your Chapter

What's your Chapter been up to? Plan to share your conservation activities, professional development programs, and fundraising endeavors through the pages of AKF in Chapter News. Have a new Chapter logo? Send it in to share with other AAZK Chapter members. Be sure to include who designed the logo, any particular significance in the design, and when it was officially adopted by your Chapter. Make sure that any photos or logos that are submitted are high resolution (300 dpi) jpgs or tifs. Send Chapter News information to: akfeditor@zk.kscoxmail.com

Animal Behavior Management Alliance Annual Conference Announcement: "Eureka"

Please join us for the 12th Annual ABMA Conference, and help us Strike Behavior Management Gold in San Francisco!

The 2012 conference will be May 6-11th in beautiful San Francisco and will feature a keynote address by Dr. Hal Markowitz, enrichment pioneer and author of *Behavioral Enrichment in the Zoo*. An enrichment workshop will also be presented by Dr. David Shepherdson, editor of the ground breaking *Second Nature*. In addition to exciting site visits to our Bay Area hosts Oakland Zoo, CuriOdyssey and California Academy of Sciences, we'll host fascinating presentations, posters, networking opportunities, stimulating conversations, plus a few new ideas!

Do you want to attend? Even better, do you have a great idea to make this conference a success? Calls for Papers will be coming soon, as will instructions for how to register. We will once again be offering our travel scholarship, the details of which will also be posted on our website!

Coming Soon: We will be starting to post all of the details in the coming weeks on the ABMA website (<http://www.theabma.org/>) and to our friends on Facebook. But we wanted to give you all a sneak peak:

Conference Details:

- Dates: May 6th – 11th 2012.
- Join your hosts during site visits: Oakland Zoo, CuriOdyssey, and California Academy of Sciences
- Hotel: San Francisco Airport Marriott
- Night in downtown San Francisco for all your site-seeing adventures
- Pre- and post-conference admissions to San Francisco Zoo among others!
- Post-conference trips to Six Flags Discovery Kingdom and wine tasting in Napa Valley.
- CEU credits for CPDT and IAABC certification
- Enrichment Olympics is back!

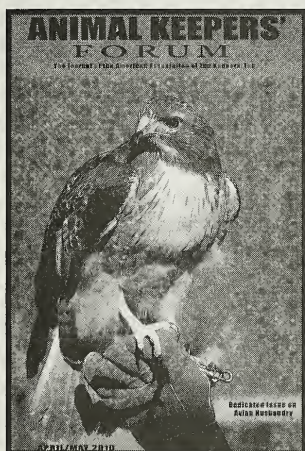
Start thinking now about your travel plans, your budget, and your paper topics... and we hope to see all of you in 2012.

AKF Dedicated Issues Combo Pack Sale

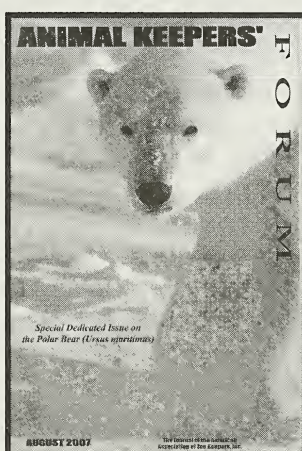
Climate Change Issue Has Been Added!

Now get a combo pack of all six dedicated issues of the *Animal Keepers' Forum* for just \$40 if you are a current AAZK member. Non-member price for the Combo Pack is \$80. You'll get issues on: Care and Management of Geriatric Animals [2009], Crisis Management, [2007], Polar Bears [2007], Cheetahs [2005], Avian Husbandry [2010] and Climate Change and Its Effects of Species [2010]. That's a savings of 25% over buying them individually. These are great issues so purchase your Combo Pack today. Orders from Canada and overseas require an additional \$10 in shipping. Domestic orders include shipping cost.

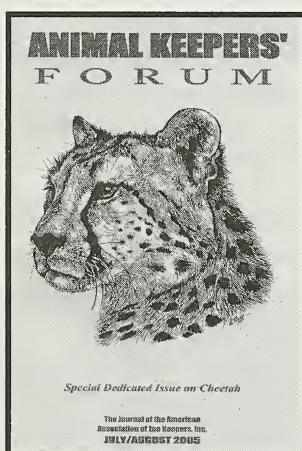
You may order this Combo Pack by going to the AAZK website at www.aazk.org. Click on "Shop" from the homepage. Or you may order by calling the AAZK Administrative Office at 785-273-9149 for purchases with a Mastercard or Visa.



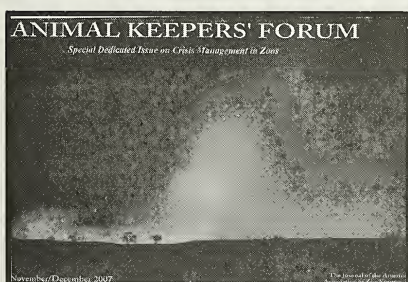
Avian Husbandry



Polar Bear



Cheetah



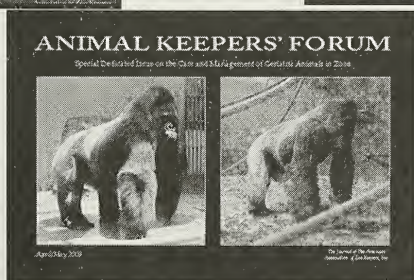
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Geriatric Animals in Zoos

AAZK Grant Report.....

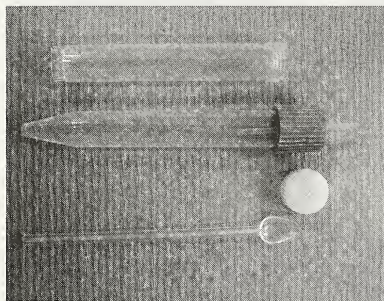
PASA Veterinary Supply Collection and Redistribution Program

*By Jill Moyse, Assistant Lead Keeper, Regenstein Center for African Apes,
Lincoln Park Zoo, Chicago, IL 60640, jmoyse@lpzoo.org,*

The Pan African Sanctuary Alliance (PASA) is an organization of African wildlife refuges that collectively cares for 850 Chimpanzees (*Pan troglodytes*), 85 Gorillas (*Gorilla g. gorilla*), 65 Bonobos (*Pan paniscus*) and approximately 3,000 other endangered primates. Currently, there are 18 PASA sanctuaries in 12 African countries.

Since 2007, animal care staff at Lincoln Park Zoo has requested veterinary supplies from other AZA accredited institutions for donation to PASA sanctuaries. Surplus and/or gently used veterinary equipment and supplies are first sent to Lincoln Park Zoo. Staff then inventory, package and ship out supplies to PASA sanctuaries based on their needs. To date, AZA zoos have donated a significant number of veterinary supplies. However, there are some supplies that PASA sanctuaries are still in dire need of.

In May of 2010, I was extremely fortunate to receive a \$700 Conservation, Restoration and Preservation (CPR) grant from AAZK to purchase Evergreen "Fecal Parasite Concentrator" kits and hand centrifuges to distribute to PASA sanctuaries. This equipment will help improve long-term care through preventive medicine for the animals residing in PASA sanctuaries. Parasites are a major disease risk in PASA sanctuaries and accurate diagnostics are crucial for effective treatment. The "Fecal Parasite Concentrator" kit is based on the Formal Ether Concentration technique is the most sensitive method of detecting ova, cysts or larvae in a fecal sample and only requires a small amount of feces. The kit is a simple and efficient device that is easy to clean, decontaminate, and reuse. Hand centrifuges are extremely useful for a variety of purposes, including the concentration

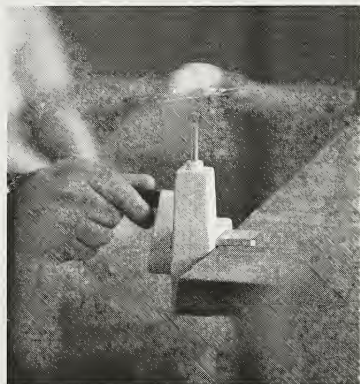


Evergreen Kit

of fecal samples for testing. A hand-powered centrifuge is vital for those sanctuaries that have little or no electricity.

In November of 2010, veterinarians and health care staff met in South Africa at Jane Goodall Institute's Chimp Eden for the PASA Veterinary Healthcare Workshop, an annual conference designed to increase the capacity and training of African veterinarians and healthcare workers at PASA member sanctuaries. At this workshop the Evergreen "Fecal Parasite Concentrator" kits were distributed amongst all PASA sanctuaries, and centrifuges were given to those in need.

The "Fecal Parasite Concentrator" kits and centrifuges are

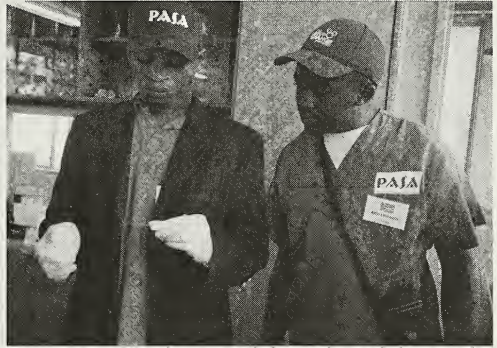


Hand-powered Centrifuge

items that PASA simply could not afford. Most sanctuaries run on very meager budgets, and their resources are devoted to the immediate care of primates including food, medicine and emergency triage. Today I am happy to report that all PASA sanctuaries can now accommodate diagnostic testing for parasites with the supplies and equipment purchased with this grant money. I would like to personally thank AAZK for the very generous grant and their continued support for conservation initiatives.



Wendi Bailey from the Liverpool School of Tropical Medicine using the hand centrifuges.



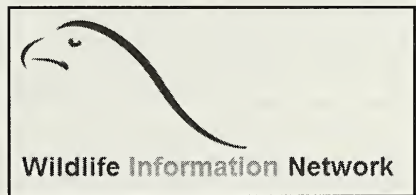
Two PASA workers participate in training at the PASA Veterinary Healthcare Workshop in 2010.

(Photos by Dr. Owen Slater, Calgary Zoo)

Access to Wildlife Information Set to Revolutionize Animal Care

In a world first, Twycross Zoo - East Midland Zoological Society has put its closely referenced scientific and veterinary information into the public domain in a move designed to dramatically improve well-being in wildlife throughout the world.

The Wildpro® Multimedia Website ~ an electronic encyclopaedia and library ~ contains a vast amount of scientific information that has been collated over 20 years and for the first time is freely available to wildlife professionals, academics and other interested parties. The information is likely to be particularly valuable in remote developing countries, where access to libraries and similar information resources is very limited.



“There is no doubt that having this information freely available will change the way wildlife, captive and free-ranging, is treated and managed” said Dr. Suzanne Boardman, CEO at Twycross Zoo. “This information resource encourages an approach to disease prevention and investigation, which considers the interaction between the animal host, the pathogen and the environment in producing either health or disease, and supports logical thinking and decision making.”

Visit the Website at <http://www.wildlifeinformation.org/>

Soure: ZooNews Digest 6/13/2011

Grevy's Zebra Trust:

Conservation of Grevy's Zebra in Kenya and Ethiopia

*By Martha Fischer, Curator of Mammals/Ungulates and Elephants, Saint Louis Zoo
Director, Saint Louis Zoo WildCare Institute Center for Conservation in the Horn of Africa
Chair, Grevy's Zebra Trust Board of Directors*

The largest of all wild equids, the Grevy's zebra (*Equus grevyi*), is now considered endangered across its range, with less than 150 in Ethiopia and the remainder, perhaps 2400, in northern Kenya. Grevy's zebras are distinguished from other zebras by the intricate pattern of narrow black and white stripes on their skins. Unfortunately, this same trait made Grevy's zebra highly prized by trophy hunters in the past; thankfully, such trophy hunting has been outlawed for decades, but illegal poaching for food and medicinal purposes has continued to drive this species towards the precipice of extinction. The process has been accelerated by critical range reduction and competition over scarce resources accompanied by an unprecedented influx of humans and their domestic livestock. In addition, there has been a significant, very recent decline in the species in northern Kenya due to disease and drought. These factors have combined to produce a devastating depopulation of this distinctive species, an alarming decline estimated to be as much as 87% over the last three decades.

The conservation of the Grevy's zebra requires commitment and coordination among many partners locally and internationally. Like many species facing an uncertain future in the wild, the Grevy's zebra is being cooperatively managed and bred in international zoo programs to ensure that the herds in human care remain genetically and demographically viable for future generations. The cooperation and transfer of Grevy's zebras among zoos and between regionally-managed programs guarantees the continued success of the global zoo population. In tandem with their *ex situ* conservation efforts, international zoos are playing a key role in Kenya and Ethiopia by providing financial support and fundraising assistance for Grevy's zebra in situ conservation initiatives.

Since 2004, dozens of international zoos have become collaborative partners in field conservation programs in the effort to save Grevy's zebra. With this continued commitment, the combination of global cooperative zoo programs, heightened international awareness to the plight of the endangered Grevy's zebra and increased field conservation partnerships will save this magnificent species from extinction.

With less than a half of a percent of the Grevy's zebra range falling within officially protected areas, this species' survival depends heavily upon the attitudes and engagement of people in community areas. Towards this end, in 2007 the Grevy's Zebra Trust, an independent wildlife conservation organization based in Kenya, was established to address the urgent need to conserve Grevy's zebra in the community rangelands of Ethiopia and Kenya. The Grevy's Zebra Trust is working holistically to secure critical resources and safeguard this species from extinction across its range by engaging communities in Kenya and Ethiopia in the protection and monitoring of Grevy's zebra.

Because the future of the Grevy's zebra hangs in the balance, it is critical to monitor the populations within community areas. The Grevy's Zebra Trust facilitates a collaborative initiative called the Grevy's Zebra Scout Program in the community areas of northern Kenya. This program employs 21 women and men of the communities that share land with the Grevy's zebras to collect data on the distribution and abundance of the zebras. This successful program provides the benefit of equal-opportunity employment in the participating communities, a direct and tangible community incentive to support conservation activities.

The positive effect of the Grevy's Zebra Scout Program is evident not only on the ground where you can now regularly see livestock and Grevy's zebra sharing resources in communities where the Scout

program is active, but it is also evident in the changed and more tolerant attitudes of community members towards wildlife. The information gathered by the Grevy's Zebra Scouts guides the local conservation plans of the community-led conservancies so that community members themselves have the opportunity to make recommendations on ways to reduce competition between Grevy's zebra and livestock.

Also through the Grevy's Zebra Trust, Grevy's Zebra Ambassadors are employed from remote communities in northern Kenya where Grevy's zebra are most threatened and where awareness of their conservation is low. The role of the Grevy's Zebra Ambassadors is three-fold: to carry out routine security patrols to enhance the safety of the zebras and other wildlife, to collect field data on Grevy's zebra in order to inform local conservation strategies, and to consistently raise awareness among and engage their fellow community members in the importance of conserving the species.



Grevy's zebra Scout collecting data in Northern Kenya.

(Photo by Belinda Low)

To ensure continued community support for Grevy's zebra conservation, the Grevy's Zebra Trust holds community awareness workshops which are designed for knowledge exchange and discussion on Grevy's zebra conservation. Successful educational outreach also requires broad connections at many levels and action by children is one of the most effective ways to initiate change in the behavior of adults. The Grevy's Zebra Trust awards secondary school bursaries (scholarships) to promising students from communities that host Grevy's zebra populations. The pastoral communities of northern Kenya are economically marginalized and this type of support to the education of their children is highly valued; it builds the capacity of the future generation and is a major catalyst in changing attitudes towards wildlife.

Successful ongoing programs like the Grevy's Zebra Scout Program exemplify the kind of holistic and synergistic approach that community conservation is all about. The communities have embraced the notion that what is good for the wildlife can be very good for the community. With continued investment into community-led conservation programs and into specific activities that address the threats facing Grevy's zebra, there is hope for this species in its native range.

Grevy's Zebra Conservation – a global effort

In the case of Grevy's zebra, community conservation is not limited to Africa. After only a short period of time, the on-going campaign to raise awareness of Grevy's zebra within the zoo community has piqued the interest and encouraged the involvement of many individuals and zoological organizations internationally. As a result, responsiveness to the issues facing Grevy's zebra has risen to a high level and the global perception of this species has changed drastically. It is now realized that Grevy's zebra are a treasure which warrants conservation attention and investment both in our zoo community and in the wild.

"There are opportunities that are arising from this project that are good. Nkai (Samburu God) has given us that heart of taking care of wildlife and people are supporting us to do this. Let's come together, work together and be united." These are the inspiring words of Rikapo Lentiyyoo, the Grevy's Zebra Trust's Scout Program Coordinator, when he was asked to share his thoughts about

the conservation activities benefitting the endangered Grevy's zebra in the Kenyan community where he was born and raised.

And Rikapo is correct - the long-term conservation of wildlife in northern Kenya, or anywhere in the world for that matter, depends upon key stakeholders, such as communities, governments, conservationists, universities and international donors, coming together and working together in partnership and in unity. According to the 2009 International Studbook, over 500 Grevy's zebra (approximately 20% of the world's entire population!) are cared for in zoos worldwide. Zoos and zoo organizations, like AAZK, are therefore important partners in Grevy's zebra conservation.

The spirit of collaboration and partnership is evident throughout the American Association of Zoo Keepers, Inc. (AAZK), especially when considering the enthusiastic support that zoo keepers and AAZK provide to many field conservation initiatives. In the last decade, several Chapters of AAZK have contributed to Grevy's zebra conservation and education activities and, when needed, emergency efforts to preserve this endangered species.

Since its inception in 2007, the Grevy's Zebra Trust (GZT) has enjoyed strong support from AAZK. The support of AAZK was instrumental in building the foundation of GZT, and several AAZK chapters continue to be strong and important partners, contributing support to the Trust's activities on an annual basis.

Whether they are hosting bake sales or auctions, T-shirt sales or wine tastings, the ingenuity of AAZK to carry out creative fundraisers that will generate awareness and donations for Grevy's zebra conservation never ceases to amaze; their passionate efforts to raise funds for the work being done by GZT on the ground in Kenya and Ethiopia is deeply appreciated. The following AAZK Chapters have provided funds and equipment to support the efforts of the Grevy's Zebra Trust: St. Louis AAZK, California Desert AAZK, the Oklahoma City Zoo AAZK and the Lion Country Safari AAZK.

The California Desert Chapter of AAZK held its first annual Grapes for Grevy's fundraiser in 2008. This event was such a success that the tradition was continued in 2009. This unique fundraiser features wine tastings with specialty wines from regional wineries and is held in conjunction with a silent auction. A portion of their contributions result from the inventive and fun "Adopt a Stripe" program which allows participants to spend \$3 to purchase a short stripe and \$5 to purchase a long stripe, and the purchased stripes are pasted on to adorn the outline of a zebra. All proceeds from this event support GZT's conservation activities.

Grevy's Zebra Trust is particularly proud of the strong bond that has formed with the St. Louis AAZK. This Chapter has a long history of support for Grevy's zebra conservation. Several years ago, this AAZK Chapter's first fundraising effort included the design and sale of a t-shirt focused on the Grevy's zebra. In recent years, the St. Louis AAZK was a founding partner of GZT and has consistently provided support annually. This Chapter supported the launch of the Conservation and Management Strategy for Grevy's Zebra (*Equus grevyi*) in Kenya 2007-2011 and has purchased vital equipment to support the GZT field team's daily work, including a video camera and GPS units.

GZT feels very fortunate to have a strong partnership with AAZK. Each year GZT provides either a project proposal or a list of priority conservation needs and interested AAZK Chapters can choose an area to support. All AAZK Chapters that support us receive the Trust's biannual newsletter updating all partners and donors on the exciting activities and conservation efforts ongoing in Kenya and Ethiopia, and their partnerships and contributions are acknowledged on the Trust's website, in the newsletter and during every presentation. GZT also supports AAZK fundraising efforts by providing some items to be offered during the auctions such as GZT T-shirts and hats and unique cultural items, such as jewelry and baskets, purchased in the communities where Grevy's zebra roam in Kenya and Ethiopia.

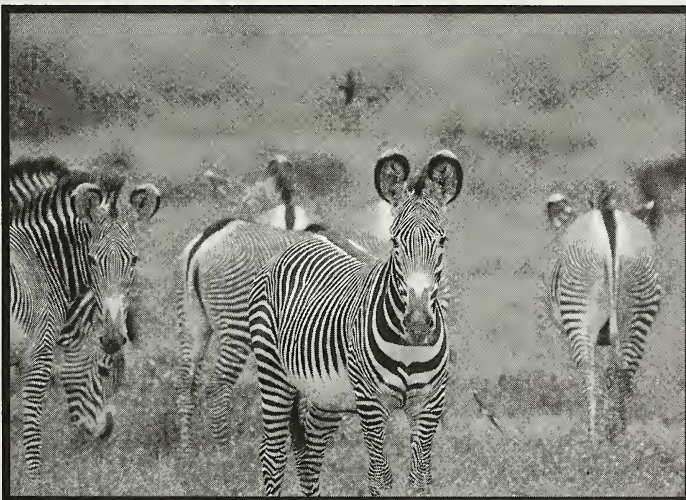
And it's not solely about money. GZT is extremely grateful to have so many ambassadors helping us raise awareness about Grevy's zebra conservation and engaging audiences that the GZT field team cannot easily reach. According to the Association of Zoos and Aquariums (AZA), every year 150 million people visit AZA accredited zoos and aquariums. Zookeepers are the front line of communication with those millions of visitors and have a great opportunity to raise awareness about endangered species and the ongoing programs to conserve them. Whether through a formal keeper chat in front of their zoo's Grevy's zebra herd or informally chatting with fellow keepers at a conference, the endorsement provided by zookeepers and by AAZK is felt and appreciated.

The conservation of the Grevy's zebra requires commitment and coordination among many partners locally and internationally. In tandem with their ex situ conservation efforts, international zoos and zoo organizations, like AAZK, are playing a key role in Kenya and Ethiopia by providing financial support and fundraising assistance for Grevy's zebra in situ conservation initiatives. The combination of global cooperative zoo programs, heightened international awareness to the plight of the endangered Grevy's zebra and increased field conservation partnerships will save this magnificent species from extinction.

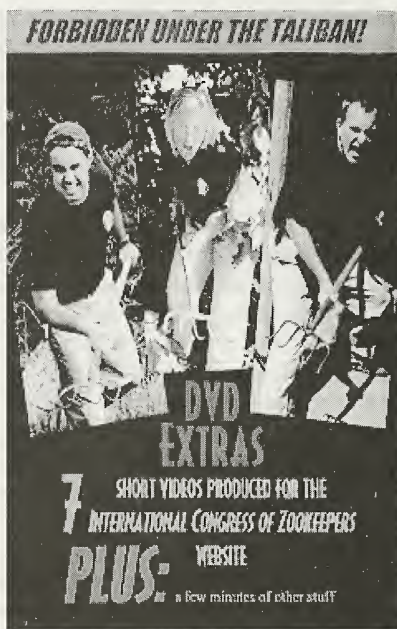
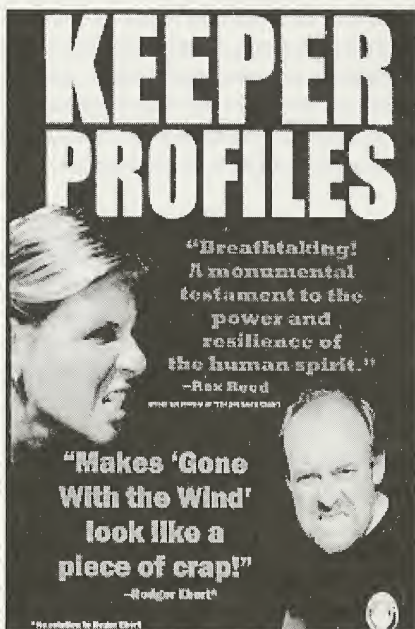
For more information about Grevy's Zebra and the Grevy's Zebra Trust, please go to www.grevyszebratrust.org. You can also find us on Facebook at <http://www.facebook.com/#!/pages/Grevys-Zebra-Trust/111941844231?ref=ts>

We deeply appreciate the exceptional commitment to Grevy's zebra conservation by the following zoos and zoo organizations that support the Grevy's Zebra Trust:

AZA Equid TAG, Brevard Zoo Conservation Fund, California Desert Chapter of AAZK, Cheyenne Mountain Zoo, Chicago Zoological Society/Chicago Board of Trade, Denver Zoological Society, Detroit Zoological Society, Disney Worldwide Conservation Fund, Fauna Research, Inc., Fresno Chaffee Zoo, Gilman International Conservation/White Oak Conservation Center, Jackson Zoo, Lion Country Safari AAZK, Los Angeles Zoo & Botanical Gardens, Greater Los Angeles Zoo Association, Kenya Wildlife Trust, Marwell Preservation Trust, Mohamed bin Zayed Species Conservation Fund, Mulhouse Zoo, Oklahoma City Zoo AAZK, Oregon Zoo Foundation's Future for Wildlife Conservation Fund, Phoenix Zoo, Prince Bernhard Fund for Nature, Reid Park Zoo Teen Volunteers, Riverbanks Zoo, Sacramento Zoo, St. Louis AAZK, Saint Louis Zoo WildCare Institute, Sea World & Busch Gardens Conservation Fund, Sedgwick County Zoo, Toronto Zoo, Wildlife Conservation Network, Zoological Society of San Diego, and Zuercher Tierschutz.



Grevy's Zebra in Samburu (Photo by Martha Fischer)



You've Heard About It!
You've been looking for it!
Here it is!

Keeper Profiles - The hilarious DVD that combines the original film clips that dissect the personalities of your fellow keepers with outtakes and other footage. Produced by the Southern Ontario AAZK Chapter, all profits from the sale of this DVD go to support AAZK, Inc. and its projects and programs.

\$15.00 U.S. and Canada
 (includes shipping and handling)
\$17.00 International
 (includes shipping and handling)

Order from the AAZK website at www.aazk.org (under Shop on the homepage) OR purchase with Visa or Mastercard by calling the AAZK Administrative Offices at 785-273-9149.

Conservation/Legislative Update

Column Coordinators: Becky Richendollar, South Carolina
and Greg McKinney, Philadelphia PA

This month's column was put together by
column co-coordinator Greg McKinney



Landmark Agreement Moves 757 Species Toward Federal Protection

- On July 12, 2011, the Center for Biological Diversity struck a historic legal settlement with the U.S. Fish and Wildlife Service, requiring the agency to make initial or final decisions on whether to add hundreds of imperiled plants and animals to the endangered species list by 2018. The Endangered Species Act is America's strongest environmental law and surest way to save species threatened with extinction. The agreement caps a decade-long effort by the Center's scientists, attorneys and activists to safeguard 1,000 of America's most imperiled, least protected species including the walrus (*Odobenus rosmarus*), wolverine (*Gulo gulo*), Mexican grey wolf (*Canis lupus baileyi*), fisher (*Martes pennanti*), New England cottontail rabbit (*Sylvilagus transitionalis*), three species of sage grouse, scarlet Hawaiian honeycreeper (*Vestiaria coccinea*), California golden trout (*Oncorhynchus mykiss aguabonita*), Miami blue butterfly (*Hemiargus thomasi bethunebakeri*), Rio Grande cutthroat trout (*Oncorhynchus clarki virginalis*), 403 southeastern river-dependent species, 42 Great basin springsnails and 32 Pacific Northwest mollusks. The Center's wrote scientific petitions and/or filed lawsuits to win federal protection for each of the 757 species.

To see a full alphabetized list of species visit: http://www.biologicaldiversity.org/programs/biodiversity/species_agreement/species_list.html Source: Center for Biological Diversity, 12 July 2011

Conservationists Sound Alarm Over Macaque - The long-tailed macaque (*Macaca fascicularis*) is being threatened with extinction by a huge surge in international trade and the destruction of its habitat in Southeast Asia, conservationists have warned. Species Survival Network (SSN), an international coalition of over 80 charities, says trade in the species had more than doubled in the second half of the last decade. The group is pressing countries taking part in a meeting of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in Geneva this month to review the impact on the macaque of the trade.



Long-tailed Macaque

(Wikipedia photo by
Muhammad Mahdi Karim)

"The long-tailed macaque is the most heavily-traded mammal currently listed on the CITES appendices and our research findings raise alarming questions concerning the long-term viability of targeted populations of the species if this trade is allowed to continued at current levels," Ian Redmond, chairman of the SSN Primate Working Group said in a statement.

Traders sold more than 260,000 long-tailed macaques -- found mainly in Cambodia, Indonesia, Laos, the Philippines and Vietnam -- between 2004 and 2008, a huge rise from the nearly 120,000 between 1999 and 2003. The breeding and supply of the monkey has developed into a large scale business enterprise mainly in Southeast Asia with most exported for medical and scientific purposes. Redmond said the population was also dwindling due to hunting, habitat loss and degradation, and human encroachment. "There is also evidence of an illegal trade in wild-caught long-tailed macaques that is likely to have a significant impact on populations," he said. Source: AFP, 15 July 2011

Japan to Continue Antarctic Whaling - Japan intends to send its whaling fleet back to the Antarctic this year, a senior official has told BBC News. There has been speculation that campaigns

by activists, money problems and new rules at sea might persuade Tokyo to stop Antarctic whaling. But at the International Whaling Commission (IWC) meeting, Japan's Joji Morishita said the plan was to return. The Sea Shepherd Conservation Society, which forced the last hunt's early closure, says it will be back too. Finding a way to deal with the organization's vessels is the main obstacle Japan sees to continuing for the next season and beyond.

"We are now discussing how we can send our fleet back to the Antarctic Ocean," said Mr. Morishita, Japan's deputy commissioner to the IWC and a senior official in the Fisheries Agency. "Simply put, the attack from Sea Shepherd organization is the one we have to consider how we prevent that to happen again."

During the IWC meeting, being held in Jersey, Japanese delegates showed pictures and videos that, they said, showed the campaigners attacking whaling vessels with projectiles including flares, which set netting alight, and glass bottles filled with foul-smelling butyric acid. They also showed Sea Shepherd boats ramming the whalers, and said reinforced ropes had been put in the water to entangle propellers.

"The attack this past year became so severe that we didn't have any choice to try to prevent the worst from happening," said Mr. Morishita.

Each successive year, Sea Shepherd has sent bigger fleets and faster vessels, while Japan has downscaled its forces; last season, for the first time, the activists had the upper hand. Rather than catching 850-odd whales - the official target - the eventual haul was about 170. It is not clear how Japan intends to protect its fleet in any future expedition - it was not just a matter of sending military patrols, Mr. Morishita said, as that was a legal minefield.

A further obstacle Japan faces is that, from next year, new regulations on maritime pollution mean the Nisshin Maru, its factory ship, will not be permitted in Antarctic waters with tanks full of heavy fuel oil without a refit. Another is financial. Japan's national budget was in trouble even before the impact of the recent earthquake and tsunami; and with sales of whalemeat falling, the cost of the hunt is rising. But Mr. Morishita suggested all of these issues would be easier to overcome than Sea Shepherd's opposition. Some observers have suggested that Japan sees blaming Sea Shepherd as a way to escape from Southern Ocean whaling without losing face. Mr. Morishita said this was not the case, and the basic policy remained unchanged.

Sea Shepherd activists have staged demonstrations outside the IWC meeting here - the organization is barred from attending - and it is clear that it will send its fleet to the Southern Ocean again if Japan does return. "Sea Shepherd will also return and will once again intercept and block their operations," the organization's head Paul Watson wrote on his blog. "If they return, we will launch Operation Divine Wind, and our vessels - the Bob Barker, the Steve Irwin, and the Brigitte Bardot - will soon return to the remote and stormy seas of the Southern Ocean Whale Sanctuary to do what we do best - defend the whales!" *Source: BBC News, Richard Black, 12 July 2011*

Phoenix Zoo is Sanctuary for Endangered Subspecies of Squirrel from Southern Arizona

The Phoenix Zoo now is a sanctuary for an endangered subspecies of squirrel from southern Arizona. Four of the last remaining 214 Mount Graham red squirrels (*Tamiasciurus hudsonicus grahamensis*) known to exist were brought to the zoo's conservation center in June amid concerns that their isolated habitat in the tinder-dry Pinaleno Mountains could be wiped out by wildfire. "If there were a big fire, we could be working with the last of these guys anywhere," said Stuart Wells, the zoo's conservation and science director. "So, yes, we were a little nervous. But I think we're all adjusting well."

Wildlife biologists captured the two male and two female squirrels and took them to the zoo under an emergency order by the U.S. Fish and Wildlife Service, which oversees imperiled species. The agency decided the threat of wildfire this year was serious enough to warrant collecting the individual squirrels as a sort of insurance policy on their survival. Wildfires in 1996 and 2004 burned thousands of acres of squirrel habitat in the Pinalenos, losses that likely pushed the population numbers of Mount Graham red squirrels lower in recent years. Fish and Wildlife designated the squirrels at the zoo a "refugium population," a term that describes a group isolated to preserve the genetics of a species in the event the wild population is lost.

The squirrels could be released back into the wild later this year, or they could remain at the zoo as part of a separate pilot project to breed the animal in captivity, with the goal of someday rebuilding the population.

“The zoo has a legacy of involvement in native-species conservation efforts,” Wells told *The Arizona Republic*. “We’re honored to be entrusted with these species.”

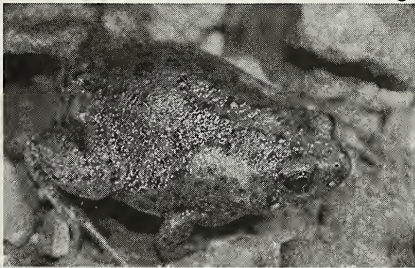
The Mount Graham squirrel is a subspecies of the more common red squirrel. It lives in the pine and mixed-conifer forests of the Pinalenos, part of southern Arizona’s high-elevation Sky Islands ecosystem. Their population has fluctuated over the years, from about 140 in the 1980s to more than 560 in the late 1990s. Their numbers have declined over the past decade, in part, scientists say, because habitat has been lost to drought, insect attacks, wildfire and development. A 1997 Fish and Wildlife study found that the squirrel was at significant risk of extinction as its numbers dwindled, although researchers have not agreed on how low a number would signal irretrievable loss. Environmental groups say one of the biggest threats to the squirrel is the University of Arizona’s Mount Graham International Observatory. The buildings and the access roads have fragmented habitat and led to fire-suppression decisions that expose the forest to rarer but larger blazes, the groups say. Federal officials are reviewing many of those issues as part of a revised recovery plan, but the emergency order issued in June shifted the immediate focus to simply avoiding an ecological disaster.



Mt. Graham Red Squirrel
(USFWS photo by Donna Dew)

The zoo was waiting for a decision on its captive-breeding project when Fish and Wildlife issued its emergency order. The zoo’s conservation center has helped breed and release other native species, including the California condor (*Gymnogyps californianus*), the Mexican gray wolf (*Canis lupus baileyi*), the black-footed ferret (*Mustela nigripes*) and the Chiricahua leopard frog (*Rana chiricahuensis*). To prepare for the squirrels, workers modified four ferret enclosures; long, rectangular cages with attached boxes big enough for nesting. Vertical space was added to give the squirrels room to climb, and the pine boughs were fitted inside. The squirrels will remain isolated from each other for now, partly because they’re so aggressive and territorial. If Fish and Wildlife approves the captive-breeding project in the next few months, the squirrels now in residence could remain. If not, they will be released later this year, after any fire danger subsides. *Source: AP, 24 July 2011*

Genetic Testing Finds New Mini Frog - Researchers have discovered a new miniature frog species in Western Australia’s remote Pilbara region. The Pilbara toadlet (*Uperoleia saxatilis*) is thought to



Pilbara toadlet (*Uperoleia saxatilis*)
(Photo: Henry Cook)

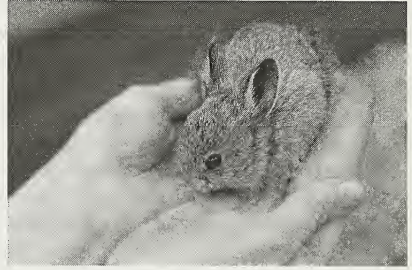
have gone unnoticed for a million years and has adapted to the harsh desert conditions. The finding was made by researchers from the University of Western Australia, the West Australian Museum and the Australian National University. ANU PhD student Renee Catullo says the two centimetre toadlet is unique.

“It has big glands and it has brown spots all over it, it also has a different call from all the other species,” she said. “It actually lives in rocky landscapes instead of sandy soils, so it’s a burrowing frog that’s adapted to live in a different type of landscape.” Ms. Catullo says researchers had thought very few amphibians lived in

the Pilbara region. “The deserts of Australia are often believed to be empty regions with few species,” she said. “However genetic work on reptiles and amphibians has shown that there are large numbers of species in what looks like a barren landscape to most people.”

Ms. Catullo says genetic testing confirmed the discovery. “We used samples that have been collected by various researchers and museums over the past 20 years,” she said. “We amplify a specific portion of the DNA and we compare individual frogs against all of the frogs and try and build a family tree and look for groups we didn’t know about before.” *Source: Australian Broadcasting Corporation, Michael Atkin, 26 July 2011*

Endangered Pygmy Rabbits Finally Breed Like ... Bunnies - Biologists say the endangered Columbia Basin pygmy rabbit (*Brachylagus Idahoensis*) is breeding for the first time in a decade in its native habitat. Wildlife managers are re-introducing the tiny rabbit on a wildlife reserve near Ephrata in Central Washington. They've confirmed several litters in a six-acre enclosure there. Michael Illig of the Oregon Zoo bred some of the parents that were recently released into the wild. He says baby pygmy rabbits – or kits – have a lot working against them. They're at the bottom of the food chain. And mother pygmy rabbits are not known for their attentiveness.



Columbia Basin Pygmy Rabbit
(Photo courtesy of Oregon Zoo)

"They give birth in a burrow and then they backfill that burrow. So they don't spend any real time with the kits," Illig explains. "Once a day, usually in the evening, they'll go and uncover that burrow and pull the kits out through the entrance, nurse them, push them back down, and seal it up, and then they go off to different burrows."

Until the re-introduction this spring, there were no Columbia Basin pygmy rabbits known to be left in the wild. A previous re-introduction effort failed after the rabbits fell prey to predators. *Source: Northwest News Network, Jessica Robinson, 25 July 2011*

WHAT'S WORKING: Zoo's Solar Project Gaining National Attention - The brutal heat is cooling off the energy bill this summer at the Cincinnati Zoo. "A year ago on a day like today, I was sweating it big time because of my electricity bill," said Mark Fisher, Senior Director of Facilities, Planning and Sustainability at the Cincinnati Zoo. "But the same day this year, I'm saying bring on the sun!" That's because Fisher said their new solar panels generate at least 20% of their power.

Zoo managers installed 6,400 solar panels in the parking lot in April. They produce enough energy to keep all of the lights on in the Zoo's 70+ buildings within the Zoo's 70-acre campus. "On a day like today, we're off the grid right now," said Fisher. "From 10 a.m to 4 p.m., we're literally producing more power than we're using." All that green is saving the zoo green.

The Zoo can't store the energy produced so it's sent back to Duke Energy. Instead of owing money for the bill, the Zoo gets a credit. The power overage is shared with the Uptown community. In all, in just one day, the 1.6 megawatt display produces enough energy to power one house for a year. At the end of one year, the solar panels could produce enough energy to power 200-300 houses. Fisher said it's not just about saving, but educating. Zoo managers have also installed an educational kiosk where families can learn about the new technology. The structure also provides shade for nearly 800 of the 1,000 spots available at the Zoo's Vine Street Parking Lot.

It all grew out of an idea from a local company -- Melink Corporation. Steve Melink is President of the company. He said his headquarters in Milford is one of the greenest buildings in the country. You'll find just about every piece of solar technology on the market somewhere on the campus. Everything from silicon mounted on the roof to solar panels on the ground. Melink said he even has car chargers installed for those who have solar-powered vehicles. "Every day of this week, we have been exporting back power back to the grid." That's right. Melink said they haven't had one energy bill in the last three months.

But Melink wanted more. He said he wanted to develop a marquee project in Cincinnati. A year and a half ago, they approached the Zoo. Fisher said Melink asked if they knew of a large space in Uptown where they could install solar panels. Fisher recommended the Zoo's parking lot. The two worked together and developed a plan to cement Cincinnati's place as a leader of the green movement. Today, the Zoo's solar panel project is the largest urban publicly accessible one in the country, but maybe not for long. Fisher said just about every zoo in the country has called about the project. Fisher said he's even heard from dozens of colleges, hospitals, and aquariums from around the world. "We're not just saying this is our secret. Look at us. You can't have it. We're saying here's how we did it. Here's exactly how we did it, and hopefully this project will get people that were on the fence off the fence," said Fisher. "My hope is that in another three to five years what we did at the Zoo is going to be commonplace," said Melink.

Fisher said it took 15 months to figure out the financing for the project, and only four months to build it. The Zoo didn't come up with any money up front, but worked with several organizations, including: Melink Corporation, PNC Bank, Uptown Consortium, the National Development Council and FirstEnergy Solutions. The group secured a number of tax credits to get the \$11-million needed to build the solar panels. All major components of the solar canopy were manufactured either locally, or in other locations with the United States. In addition, the project has funded 10 scholarships at Cincinnati State Technical & Community College in their Greater Workforce Development Program. Source: FOX19 News Cincinnati, Kimberly Holmes Wiggins, 27 July 2011

SD Zoo Bird Experts Help Endangered Heron - The first hands-on rearing of a critically endangered white-bellied heron (*Ardea insignis*) in Bhutan was successful thanks to a pair of bird experts with the San Diego Zoo Safari Park who spent three months in the small Asian nation this year according to park officials. Only 26 of the large wetlands birds are believed to be left in Bhutan and about 50 in the world, according to the park. Bhutan is a land-locked nation between China and India, and lies at the southern base of the Himalayan mountains. In rearing the chick, animal-care manager Don Sterner and lead keeper Debbie Marlow used an incubator, but periodic electrical outages meant that the bird required round-the-clock monitoring. Sterner and Marlow trained local authorities in how to care for the bird. "At that time the chick was 40 days old and beginning to stand, learning to fly and catching live fish," Sterner said. "Our hope is to continue to assist the folks in Bhutan who are dedicated to saving this species." The white-bellied heron is mostly dark gray and has a contrasting white throat and belly. Development and pollution have degraded the bird's wetlands habitats. Sterner and Marlow, who collaborated with the Royal Society for Protection of Nature, have extensive experience in the conservation of endangered birds, mostly working with the California condor (*Gymnogyps californianus*). Source: 10News San Diego, 4 August 2011

Court Reluctantly Denies Challenge to Congressional Rider that Stripped Wolves of Protection - A federal judge has denied a challenge brought by the Center for Biological Diversity and other conservation organizations to a congressional budget rider that stripped Endangered Species Act protections for wolves in the northern Rocky Mountains. The federal judge upheld the constitutionality of the rider but also condemned Congress's actions as an infringement on the judiciary. "If I were not constrained by what I believe is binding precedent from the Ninth Circuit, and on-point precedent from other circuits, I would hold Section 1713 is unconstitutional because it violates the Separation of Powers doctrine . . .," wrote U.S. District Judge Donald Molloy. He further describes the rider as "a tearing away, an undermining, and a disrespect for the fundamental idea of the rule of law."

The rider is the first time that Congress exempted a species from the Endangered Species Act. Judge Molloy expressed his distaste for Congress's overreaching, explaining that the Endangered Species Act "protects imperiled species, without regard to the popularity of the animal or plant. It does not just protect species when politically convenient. . . . [The rider] sacrifices the spirit of the ESA to appease a vocal political faction, but the wisdom of that choice is not now before this Court."

The decision means that hunting seasons in Idaho and Montana that are designed to drastically reduce wolf (*Canis lupus*) populations will move forward. It also leaves fledgling wolf populations in eastern Oregon and Washington and northern Utah without protection. "Today's decision means that hundreds of wolves that need protection won't get it," said Kieran Suckling, executive director of the Center. "Although wolf numbers have risen, the job of wolf recovery in the northern Rocky Mountains is far from complete."

The Center and other conservation groups had challenged a congressional budget rider, approved in April, that removed Endangered Species Act protection for wolves in Montana, Idaho, Oregon, Washington and Utah. The decision marked the first time that Congress, rather than scientists, took a plant or animal off the endangered species list. The groups asserted that Congress violated



Gray Wolf (*Canis lupus*)
(USFWS photo
by John & Karen Hollingsworth)

the separation-of-powers clause of the U.S. Constitution because it ordered an outcome in ongoing litigation without amending the underlying law and blocked judicial review, effectively negating the role of the judiciary. *Source: Center for Biological Diversity, 3 August 2011*

Gulf of Mexico Dead Zone Smaller Than Predicted, Still Harmful - This year's dead zone in the Gulf of Mexico is roughly equal to the land area of the state of New Jersey, scientists have determined. At 6,765 square miles, this area of low oxygen is the 10th largest on record and is considered about average for the past five years. Researchers had predicted the potential for a record-sized dead zone as large as 9,421 square miles due to the record spring flooding of the Mississippi River that sent large loads of fertilizer nutrients running off into the Gulf. But strong winds and waves associated with Tropical Storm Don in late July mixed the layers of water, re-oxygenating the western portion of the dead zone.

"Although Tropical Storm Don disrupted part of the hypoxic zone, our monitoring over the past several months indicated the spring floods expanded the dead zone region," said Nancy Rabalais, PhD, executive director of the Louisiana Universities Marine Consortium, who led the NOAA-supported research team. "However, sampling the hypoxic bottom layer on a ship rolling in 6-10 foot waves presented safety and sampling issues that interfered with precise measurements at some stations," Rabalais explained. "For these reasons, the size of the measured hypoxic zone was smaller than just before the storm, and is probably underestimated."

In addition to surveys in the traditional region of the dead zone, Rabalais' research team documented a large area of hypoxia east of the Mississippi River in mid-July. Rabalais said the team recorded severe areas of hypoxia offshore of Louisiana at Terrebonne Bay, Atchafalaya Bay and offshore of Barataria Bay - all areas just west of the Mississippi Delta that were affected by last year's BP Deepwater Horizon oil spill. However, she said, the low oxygen areas are probably unrelated to the BP oil spill. Scientists will not be able to say exactly what effect the oil spill has had, said Rabalais, because no sediments or water samples were tested for oil this year. "The samples we collected last year are still awaiting funding for analysis," she told reporters on a teleconference August 1.

When the oxygen level in the Gulf water becomes very low, sediments on the sea floor release hydrogen sulfide, a rotten-egg-smelling gas which is toxic to organisms. Creatures that usually live in the sediments, such as eels and crabs, were observed swimming up at the surface off Grande Isle, Barataria Bay, and in the Port Fourchon area to escape the hydrogen sulfide, said Rabalais. The dead zone is fueled by nutrient runoff from agricultural and other human activities in the Mississippi River watershed, which stimulates an overgrowth of algae that sinks, decomposes and consumes most of the life-giving oxygen supply in bottom waters. The hypoxic zone off the coast of Louisiana and Texas forms each summer and threatens commercial and recreational Gulf fisheries.

"Despite fluctuations in size due to each year's weather conditions, these chronic, recurring hypoxic zones every summer represent a significant threat to Gulf ecosystems," said Robert Magnien, PhD, director of NOAA's Center for Sponsored Coastal Ocean Research. "Until we achieve a substantial reduction in nutrient pollution from the Mississippi River watershed," said Magnien, "we will continue to experience extended periods of time each year when critically-needed habitat is unavailable for many marine organisms."

Rabalais says there was no dead zone in the Gulf of Mexico before the 1950s. Sediment analysis shows that the Gulf has not always had hypoxia, she said, and it has gotten worse over time. "It is possible to reduce the size of the dead zone if the nutrient level is reduced," said Rabalais. "In other areas of the world, the problem has been alleviated." *Source: Environment News Service, 5 August 2011*

Vietnam's Tiger Population Hits Crisis Point - Just 30 wild tigers survive today in Vietnam out of 3,200 across the world, according to the World Wildlife Fund (WWF). The WWF said there were 100 wild tigers (*Panthera tigris corbetti*) in Viet Nam ten years ago. The conservation body said the number of tigers across the world has decreased by 97% since 1900. The main reason for the diminishing tiger population is deforestation, said Do Quang Tung, deputy director of the Convention on International Trade in Endangered Species (Cites) Viet Nam. The growing human population has also put pressure on tiger numbers, he added, as has illegal hunting and trafficking. Meanwhile, Nick Cox, WWF's manager of protected areas, species and wildlife trade, said Vietnam was a trade hub

for tiger products, while illegal medicines made from tiger bones had become increasingly popular. “It’s very important at the moment to halt the illegal international tiger trade and domestic consumption of tigers,” Mr. Cox said.

Keshav Varma, program director of Global Tiger Initiative (GTI), said the continuous demand for tiger parts and the surge in illegal smuggling are totally unacceptable. He said if things continue going as they were, the last remaining tigers in Indo-China will be wiped out within a few years.



Indiochinese Tigers at the Cincinnati Zoo

(Wikipedia photo by Kabir Bakie)

Hoang Thi Thanh Nhan, deputy head of the Natural Resources and Environment Ministry’s Bio-diversification Conservation Department, said Vietnam, in a bid to save tigers in the wild, has participated in Global Tiger Initiative forums. Vietnam and 12 other countries have made a historic commitment to eradicating poaching and the illegal trade in wild tigers at the St. Petersburg Tiger Summit last November, she said. *Source: The Straits Times, 1 August 2011*

History’s Normal Rate of Species Disappearance is Accelerating, Scientists Say - Biologist E.O. Wilson once pondered whether many of our fellow living things were doomed once evolution gave rise to an intelligent, technological creature that also happened to be a rapacious carnivore, fiercely territorial and prone to short-term thinking. We humans can be so destructive that some scientists believe we’ve now triggered a mass extinction - one that in several hundred years will rival the asteroid impact that killed the dinosaurs. In some places, a mass extinction is already under way. Haiti, a “hotspot” for plant and animal diversity, may be closest to ecological collapse. The geologic record shows the living world went through five previous spasms of extinction in the last 500 million years.

There’s plenty of evidence that the sixth mass extinction has begun, said biologist Stuart Pimm, chair of conservation ecology at Duke University. “We are clearly living in an era where we’re driving species to extinction 100 to 10,000 times faster than they should be going extinct,” he said. There’s a wide range in those numbers because the fossil record shows just a fraction of what lived in the past, and scientists don’t know exactly how many species exist today. From what they can tell, Pimm said, the normal “background” level is quite slow. His estimate: About one bird species disappears per century and one amphibian every 150 years. Now, he said, “species are going extinct every year.”

We don’t know exactly how many we’re losing because we don’t know even a fraction of all the species that exist. “We have a remarkably incomplete inventory of life,” said University of Chicago paleontologist David Jablonski. “There are plenty of species that have gone extinct before they were ever discovered.” It’s not that scientists are lazy, he said, but that there are a staggering number of species of insects, amphibians, birds, plants and other living things, especially in tropical areas.

One way they can estimate current extinction rates is through sampling, said Duke’s Pimm. By studying well-known animals, such as birds, scientists can infer the extinction rates of lesser-known ones. Others are focusing more regionally. In Haiti, it’s clear there’s a mass extinction going on, said Pennsylvania State University biologist Blair Hedges. The country, which occupies the western part of the Caribbean island Hispaniola, is still reeling from the massive earthquake in January 2010. Over the years, it has lost 99% of its forest, once home to a great diversity of plants, birds, reptiles and amphibians.

While many of the birds also live on the other side of the island, in the Dominican Republic, Haiti has a number of frog species unique to that country. And of the 50 frogs endemic to Haiti, 49 are endangered, said Hedges, who is leading an expedition to several remote mountainous areas of the country in an attempt to capture a few of these rare frogs. Some Haitian frogs already live at the Philadelphia Zoo. The frogs brought back from this expedition may be taken to breeding programs at other zoos as well, where they can be appreciated and studied even if they disappear in the wild.

Fossil frogs have been found dating to the Jurassic period, showing that these creatures have been leaping around for at least 200 million years. That means they somehow adapted to whatever killed

the dinosaurs. And yet now, they're dying off worldwide. Some of those deaths have been attributed to an infectious fungus, spread by an African clawed frog (*Xenopus laevis*) that was removed from its native habitat and sent around the world for use in pregnancy tests (hormones in a pregnant woman's urine would cause these frogs to produce sperm or eggs). But many believe the pregnancy-test frog is just one factor among several that are behind the dying.



African clawed frog

(Wikipedia photo by Michael Linnebach)

of forests threatens to kill frogs much faster than the fungus could, said Penn State's Hedges. His hope is that people will recognize how important it is to save that last 1% of Haiti's forest, not just for the frogs, but for the humans as well.

Most Haitians depend on the wood for cooking fuel. If they run out of wood before anyone comes up with an alternative cooking system, there will be massive famine. Hedges and other biologists agree that Haiti shows us an example of what could happen elsewhere, a microcosm of the current mass extinction that's just beginning. "This is basically a symptom of a much larger issue," said Thomas Lovejoy, a conservation biologist and past president of the Heinz Center for Science, Economics, and the Environment. "I've

heard other people say that Haiti is the unthinkable experiment that no scientist would be allowed to conduct."

Are there any lessons from the last five mass extinctions? "One of the take-home messages is that they can happen," said Chicago's Jablonski. "You can push big ecosystems of the world beyond their breaking point." The event that killed the dinosaurs 65 million years ago cleared out 75% of all species on the planet. An even more deadly event happened around 251 million years ago, ending the Permian period. More than 90% of the world's species perished. The aftermath of such events is like a lottery, Jablonski said, with winners and losers that are hard to predict. These events usually lead to regime changes, where dominant life forms die off to be replaced by something else. Who wins and who loses won't be known for some time. It takes five to ten years for the biosphere to recover its diversity - and it's never the same. *Source: Faye Flam, McClatchy-Tribune News Service July 29, 2011*

Zoo to Turn Poop into Power - The Toronto Zoo plans to turn waste from its animals into power. The zoo said that it would team up with ZooShare Biogas Co-operative Inc. to develop and operate a 500 kW biogas plant.

The project will be the first co-operatively-owned biogas plant in Canada as well as the first zoo-based biogas plant of its kind in North America.

Under the plan, Toronto-based ZooShare will be fully responsible for funding, designing, developing, constructing and operating the plant on lands leased from the zoo.

Both food waste from a major grocery retailer and all of the zoo's manure, which is currently composted, will go to the proposed plant where it will be processed into electricity, heat and fertilizer.

This will result in a reduction in greenhouse gas emissions by approximately 10,000 tons CO₂, which is equal to taking over 1,800 cars off the road each year.

The organization said a community bond issue would fund the majority of the \$5.4-million project. The issue offers investors a fixed return of 7% to an RRSP account. *Source: CBC News 6/18/11 <http://www.cbc.ca/news/>*

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